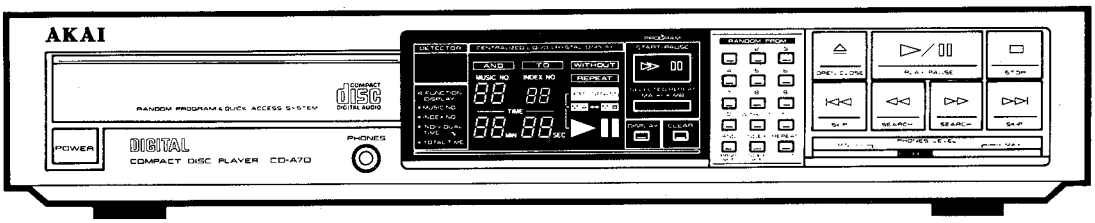
AKAI SERVICE MANUAL



COMPACT DISC PLAYER

MODEL CD-A70

SPECIFICATIONS

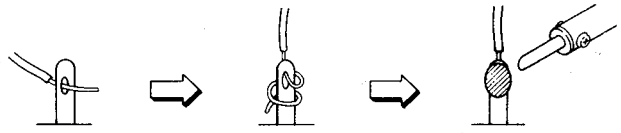
Type	Optical
Pick-up System	3 beam semi-conductor laser
Filter	Accurate 80th Digital filter and accurate 7th analogue filter
Channel	2 channel
Sampling frequency	44.1 kHz
Frequency response	5 Hz to 20 kHz
Dynamic range	95 dB
S/N	95 dB
T.H.D.	0.003% (1 kHz)
Channel separation	90 dB (1 kHz)
Wow & Flutter	Below measurable limits
Line output level	2V
Dimensions	440 (W) x 79 (H) x 260 (D) mm (17.3 x 3.1 x 10.2 inches)
Weight	3.9 kg (8.6 lbs)

* For improvement purposes, specifications and design are subject to change without notice.

★SAFETY INSTRUCTIONS

PRECAUTIONS DURING SERVICING

1. Parts identified by the ⚠ symbol parts are critical for safety. Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation.
   These must also be replaced only with specified replacements.
   Examples: RF converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locatoins.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 M ohms. but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for [C] or [A], specified insulation resistance should be headphone jacks line-in-out jacks etc. more than 2.2 M ohms (ground terminals, microphone jacks).

★INFORMATION

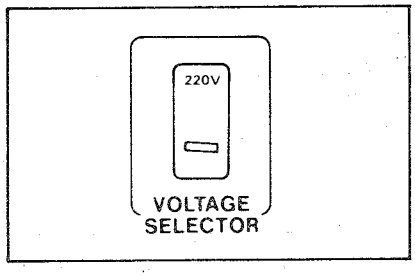
SYMBOLS FOR PRIMARY DESTINATION

Alphabet indicates the destination of the units as listed below.

Symbols	Principal Destinations
[A]	USA
[B]	UK
[C]	Canada
[E]	Europe (except UK)
[J]	Japan
[S]	Australia
[V]	W. Germany only
[U]	Universal Area
[Y*]	Custom version

VOLTAGE CONVERSION ([U] Model only)

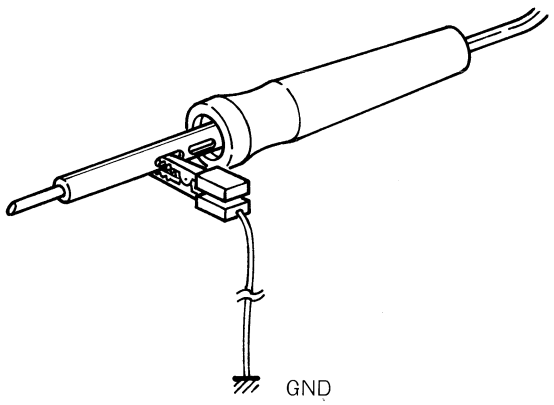
Befor connecting the power cord. SET the VOLTAGE SELECTOR located on the rear panel with a screwdriver so that the correct voltage is indicated.



PRECAUTIONS IN REPAIRING

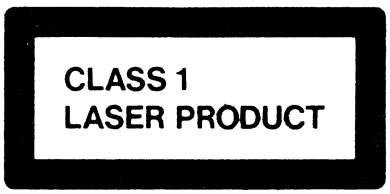
When repairing or adjusting the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal objects in the narrow gap between the P.C board or the mecha parts and the base.
3. The Micro-Computer (M50745-417SP, HD6805SD) and the CD signal processing ICs (CX20108, CX20109, CX20152, CX23035, AK-80 and SRM2016C15) can be damaged by static electricity or leakage from a soldering iron during repairing. While soldering, please take the precautions against leakage as in the illustration below.

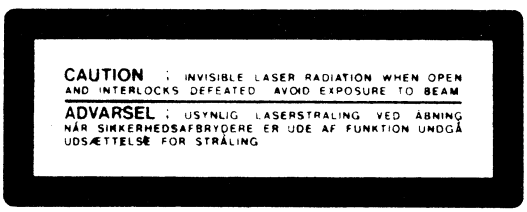


4. Do not loosen any screws in the pick-up block. When handling the Pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation, DO NOT watch the Laser Beam (objective Lens) Directly.
6. Models for the same countries, Laser Warning Labels are afixed on the unit and inside of the unit, as shown below.
   Read it carefully for your safety, when repairing or adjusting the unit.

[DENMARK]



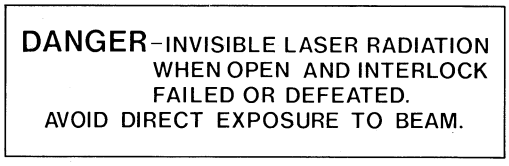
A Label affixed on the unit


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM
ADVARSEL : USYNLIG LASERSTRALING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING

A1 A Label affixed inside of the unit

[USA]

A Label affixed on the unit

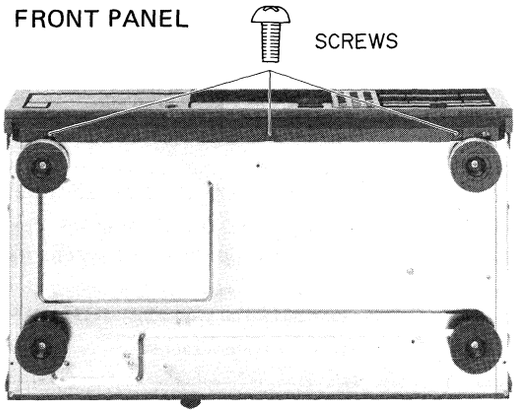


A1 A Label affixed inside of the unit

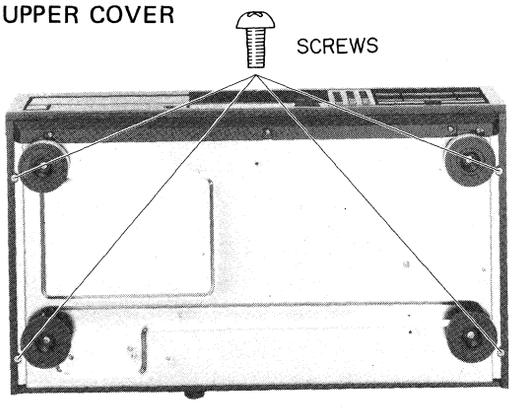
I. DISMANTLING OF UNIT

In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

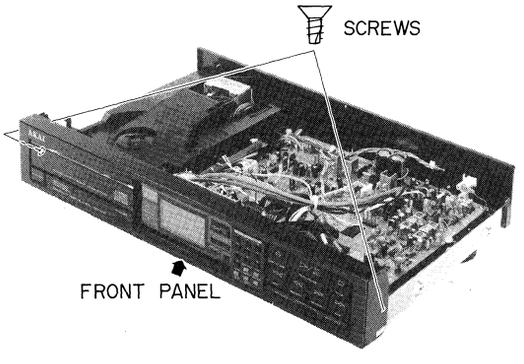
3 FRONT PANEL



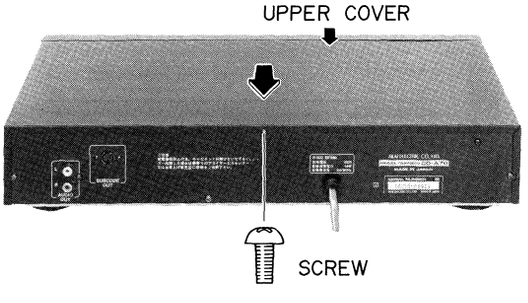
1 UPPER COVER



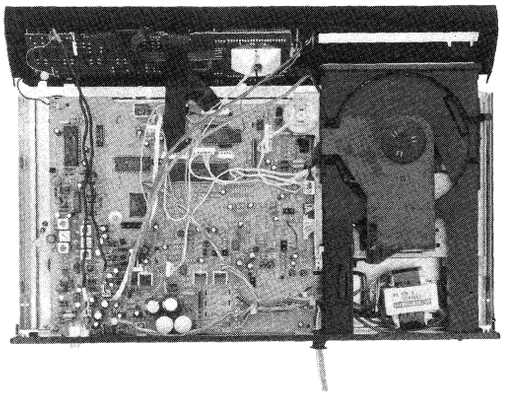
4



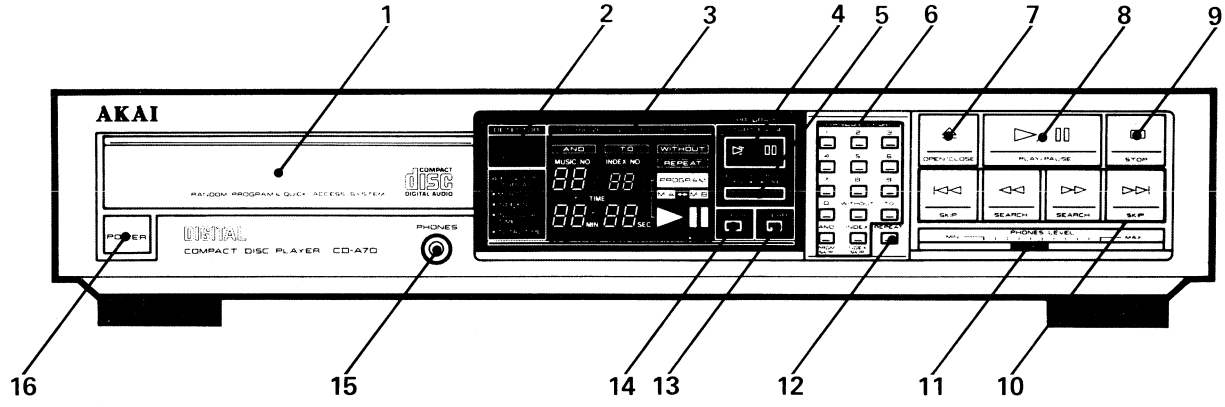
2



5



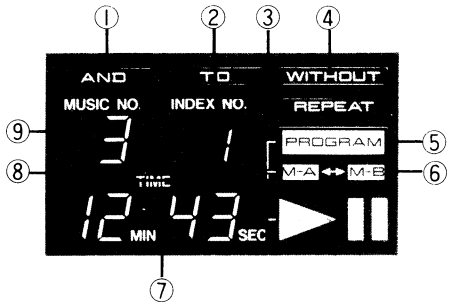
II. CONTROLS



1. **Plattenlade**
   Hält die CD-Platte
2. **Fenster für den Fernbedienungs Signalempfang (DETECTOR).**
3. **Flüssigkristall-Display**
   Zeigt die jeweilige Betriebsart an.
4. **Abspiel/Pausentaste (PROGRAM START/PAUSE)**
   Zum Starten der Wiedergabe.
5. **MA-MB-Taste (SELECTED REPEAT)**
   Zur Einspeicherung zweier Punkte für wiederholte Wiedergabe eines bestimmten Plattenabschnitts.
6. **Tasten für Wiedergabe- Programmierung (RANDOM PROGRAM).**
7. **Öffnen/Schließen-Taste (OPEN/CLOSE ▲)**
   Zum Entnehmen und Einlegen von CD-Platten.
8. **Abspiel/Pausentaste (PLAY/PAUSE ► / ❚❚)**
   Zur Aktivierung der Wiedergabe bzw. Pause.
9. **Stopptaste (STOP ■)**
   Zur Beendigung der CD-Wiedergabe.
10. **Suchlauftasten**
    Mit diesen Tasten läßt sich manueller Suchlauf, Titel-Suchlauf und Untertitel-Suchlauf durchführen.
11. **Kopfhörer-Pegelregler (PHONES LEVEL).**
    Für die Regelung der Abgabelautstärke bzw. Kopfhörerlautstärke.
12. **Wiederholtaste (REPEAT)**
    Für wiederholte Wiedergabe.
13. **Löschtaste (CLEAR)**
    Zum Löschen der wiederholten Wiedergabe eines Abschnitts.
14. **Anzeigewahl-Taste (DISPLAY TIME).**
    Für die Wahl der Zeitanzeige.
15. **Kopfhörerbuchse (PHONES).**
    Zum Hören über Kopfhörer.
16. **Netzschalter (POWER)**
    Zum Ein- und Ausschalten des Akai CD-A70.

1. **Diskschuif**
   Bevat de kompakt disk.
2. **Venster voor de afstandsbediening (DETECTOR).**
   Houd dit venster voor de afstandsbediening schoon.
3. **LC-display**
   Toont wat de funktie van de Akai CD-A70 is.
4. **Programma start/pauze-toets (PROGRAM START/PAUSE)**
   Om weergave te starten
5. **MA-MB toets (SELECTED REPEAT)**
   Voor vastleggen van 2-punts herhaling en geselekteerde herhalingsweergave.
6. **Direkte weergave (RANDOM PROGRAM) programmeringstoetsen**
7. **Open/sluit-toets (OPEN/CLOSE ▲)**
   Voor uitwerpen en laden van de kompakt disk.
8. **Weergave/pauze-toets (PLAY/PAUSE ► / ❚❚)**
   Voor starten en tijdelijk onderbreken van de weergave.
9. **STOP-toets (■)**
   Voor beëindigen van de weergave.
10. **Zoektoetsen**
    Gebruik deze toetsen voor opzoeken met de hand, opsporen en indexopsporing.
11. **Hoofdtelefoonniveauregelaars (PHONES LEVEL)**
    Regelaars voor de uitgang van de toets hoofdtelefoon (PHONES OUTPUT)
12. **Herhalingstoets (REPEAT)**
    Gebruik voor herhalingsweergave.
13. **Wistoets (CLEAR)**
    Voor annuleren van vastgelegde MA- MB en direkte programma's.
14. **Display-keuze toets (DISPLAY)**
    Om de filddisplayfunktie te kiezen.
15. **Hoofdtelefoonaansluiting (PHONES)**
    Voor meeluisteren via de hoofdtelefoon
16. **Netschakelaar (POWER)**
    Om de Akai CD-A70 in en uit te schakelen.

Flüssigkristall-Display
LC-display (Vloeibare kristaldisplay)



① Und-Anzeige (AND)
② Bis-Anzeige (TO)
③ Wiederholanzeige (REPEAT)
④ Ohne-Anzeige (WITHOUT)
⑤ Programmanzeige (PROGRAM)
⑥ Gesamttitel-Anzeige (TOTAL)
⑦ Anzeige der vergangenen Spielzeit. Umschaltbar zwischen Restzeit der gesamten CD und Restzeit einzelner Titel.
⑧ Untertitelnummer-Anzeige (INDEX NO.)
⑨ Titelnummer-Anzeige (MUSIC NO.)

① **AND-display**
② **TO-display**
③ **Herhalingsdisplay (REPEAT)**
④ **Zonder-display (WITHOUT)**
⑤ **Programmadisplay (PROGRAM)**
⑥ **Geselekteerde weergavedisplay**
⑦ **Display voor verstreken tijd (TIME – MIN/SEC). Schakelt over van totale tijd naar individuele tijd.**
⑧ **Indexnummerdisplay (INDEX NO)**
⑨ **Passagenummerdisplay (MUSIC NO)**

III. PRINCIPAL PARTS LOCATION

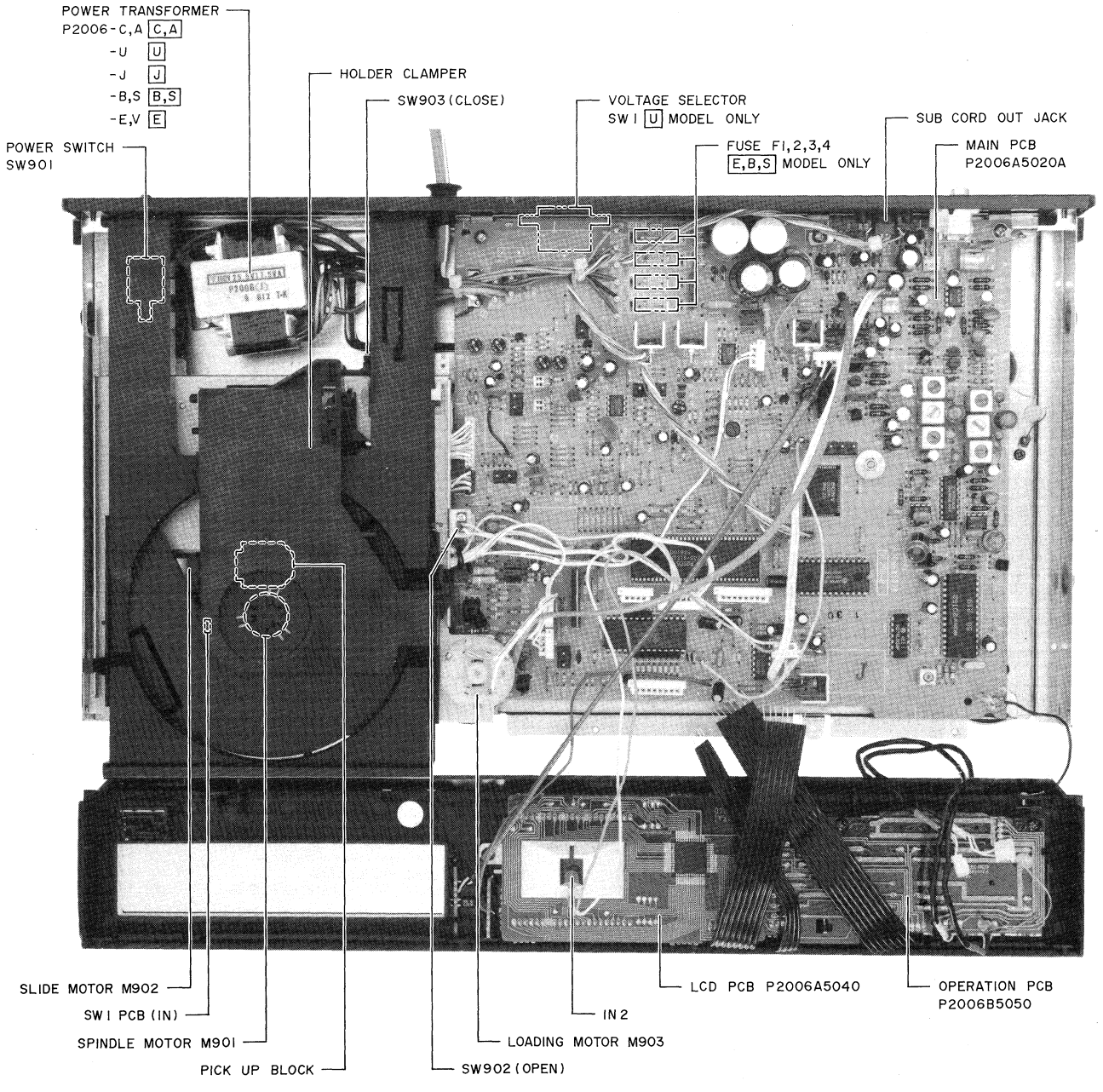


Fig. 3-1

V. REPLACEMENT OF SPINDLE MOTOR

The turntable of the spindle motor has been pressed-in and they can not be replaced individually. When replacing the turntable or the spindle motor, replace the following parts as a set.

PARTS NO.	DESCRIPTION
BM-361225	MOTOR (SPINDLE)
MZ-362964	TURNTABLE
ZS-624870	HEXAGON SET SCREW

5-1. REMOVE AND ASSEMBLE SPINDLE MOTOR

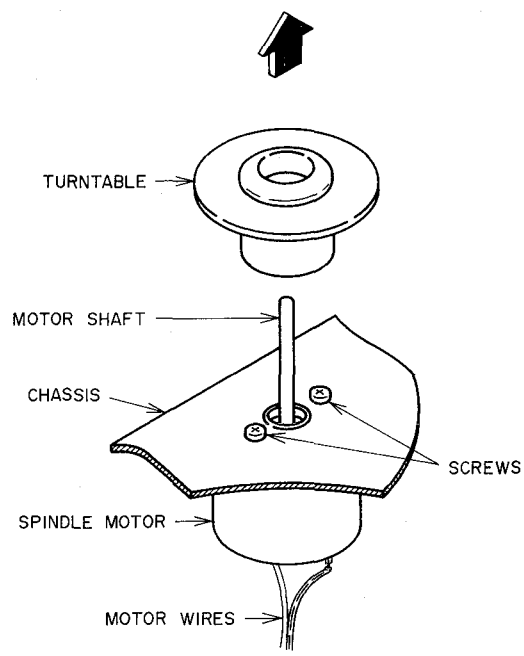


Fig. 5-1

1) Pull out the turntable from the spindle motor.
2) Remove two screws.
3) Unsolder two spindle motor wires.
4) Solder two wires to the new spindle motor.
5) Put the new spindle motor on to the chassis with two screws.
6) Put the new turntable on to the motor shaft and adjust the turntable so that the height of the turntable from chassis becomes 20 mm or its clearance from chassis becomes 4 mm as shown in Fig. 5-2.

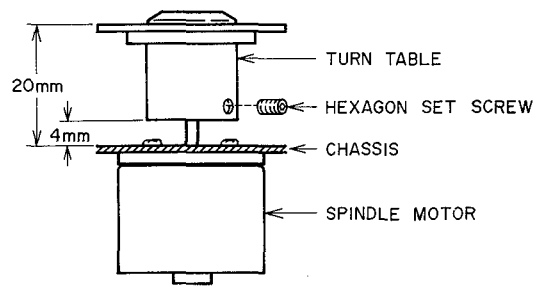


Fig. 5-2

VI. ADJUSTMENT

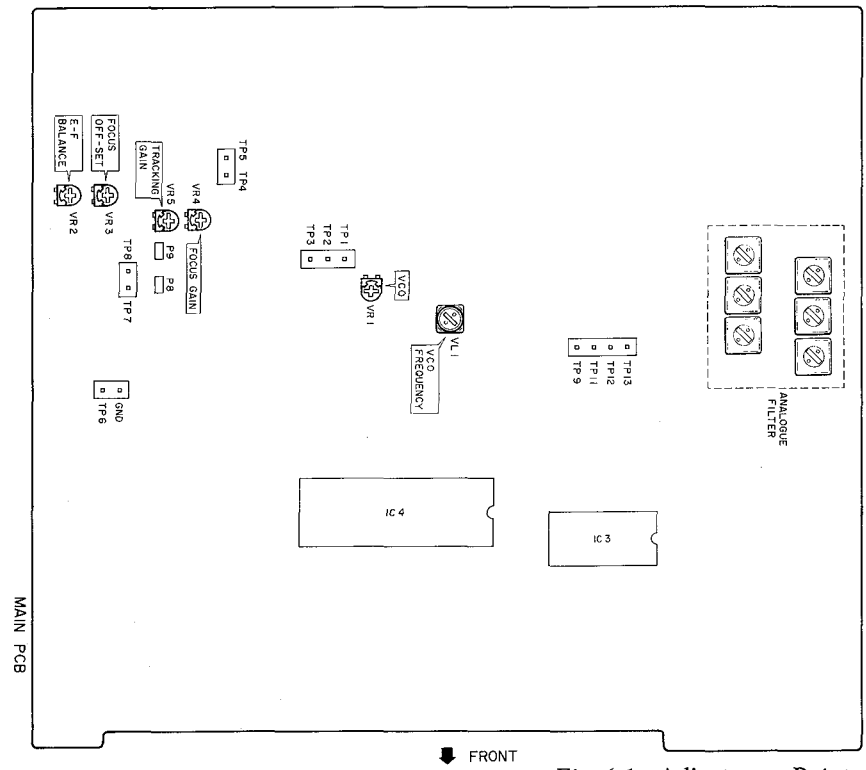


Fig. 6-1 Adjustment Points

IV. REPLACEMENT OF THE PICK-UP BLOCK

4-1. PRECAUTIONS, WHEN REPLACING THE PICK-UP BLOCK

NOTE: For your safety from hazardous invisible Laser Radiation, replace only with pick-up block. Do not try to repair or the any adjustment.

1) The LD (Laser Diode) fixed on the pick-up block P.C board can be damaged by static electricity or leakage from a soldering iron. Do not touch the P.C board of the pick-up block, or use a tester to check if the electricity is on. When soldering, make sure that precautions are taken to prevent leakage from the soldering iron.
2) Avoid scratches, dirt or dust on the lens of the pick-up caused by touching with the fingers.
3) When connection or disconnection the Black connector (P1), make sure that the P.C board is shorted circuit as shown Fig. 4-1.
   Do not turn the electricity "ON" while it remains shorted-circuited.

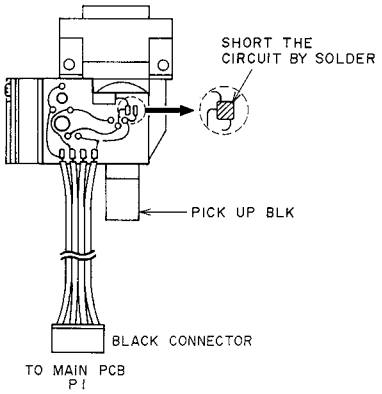


Fig. 4-1

4-2. PROCEDURES FOR CHANGING THE PICK-UP BLOCK

NOTE: Keep your safety from hazardous invisible Laser Radiation, Make sure that the Power switch is OFF when removing the disc clamper.

1) Remove the upper cover and the Front Panel and turn the power on. Depress the OPEN/CLOSE button to open the disk tray. Then turn the power off.
2) Remove four Mecha chassis fixing screws Ⓐ. (Refer to Fig. 4-2)
3) Short the pick-up P.C board with solder. (Refer to Fig. 4-1)
4) Loosen two pick-up fixing screws Ⓑ, remove the pick-up gear. (Refer to Fig. 4-3)
5) Remove the three connectors on the pick-up block: P1, 2, and 4.
6) Move the disk clamper.
7) When the four screws Ⓐ, Ⓑ, Ⓒ and Ⓓ, for the metal fittings of the pick-up guide rail are removed, the pick-up block guid rail can be removed. (Refer to Fig. 4-4)

* Before connecting the connector P1 to MAIN PCB, Confirm that the abnormal DC voltages are not appeared at emitter of TR10 and TR12.

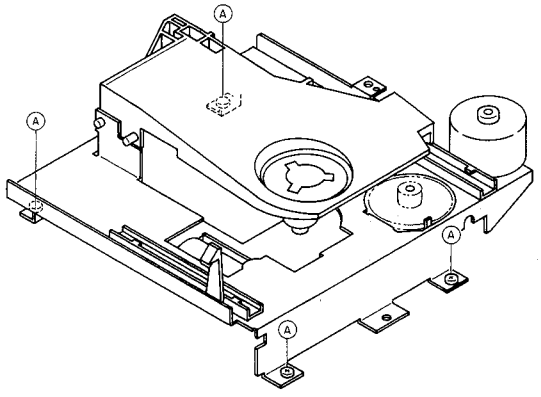


Fig. 4-2

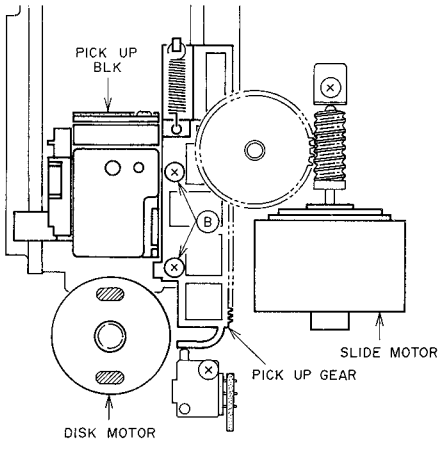


Fig. 4-3

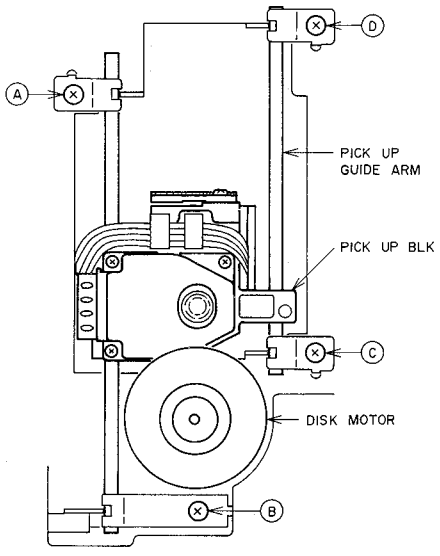


Fig. 4-4

6-2-3. E-F BALANCE ADJUSTMENT

This is to adjust the output balance of diodes [E] and [F] for tracking error detection.
When changing the pick-up adjusting the tracking constancy, this must be checked and adjusted.

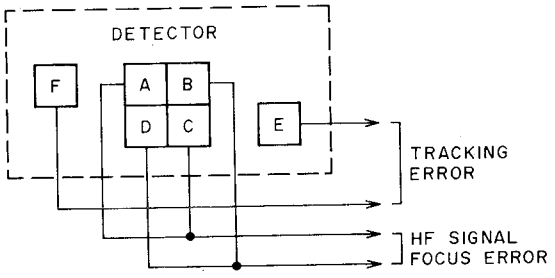


Fig. 6-8

1) Connect the oscilloscope to TP7 on the Main P.C board and GND.
2) Insert the music disc and depress the OPEN/CLOSE button to close the disc tray.
3) Extract the short plug (P8) on the Main P.C board.
4) Adjust the VR2 for E-F balance so that the Ground level is center of the waveform.

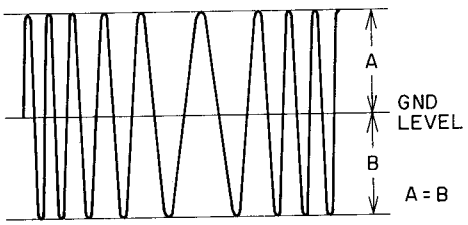


Fig. 6-9

6-2-4. FOCUS GAIN ADJUSTMENT

1) Connect an oscilloscope between P4-Pin ① terminal on the Main P.C board and GND, and measure the voltage on the focus coil.
2) Play back the test disc and adjust VR4 so that the tracking coil voltage is 500 to 600 mVp-p.

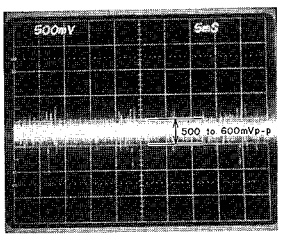


Fig. 6-10

6-2-5. TRACKING GAIN ADJUSTMENT

1) Connect the oscilloscope between P4-Pin ③ terminal on the Main P.C board and GND, and measure the voltage on the tracking coil.
2) Play back the test disc and adjust VR5 so that the tracking coil voltage is 1.8 to 2.2 Vp-p.

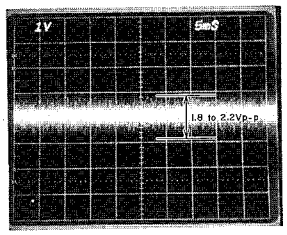


Fig. 6-11

Reference: If the sound jumps when the machine is lightly jolted, this means the tracking Gain is small.
If a disc with a scratch of 600μ is played and the sound jumps, this means the tracking Gain is large.
Philips No. 40079-2 TNO 6, 01′ 05″ up till TNO 7, 00′ 02″.

6-2-6. FOCUS OFF-SET ADJUSTMENT

1) Connect the oscilloscope to TP6 and TP8 on the Main P.C board.
   TP6 . . . . . eye pattern waveform
   TP8 . . . . . focus error signal
2) Play back the TNO. 17 of PHILIPS TEST DISC and adjust the VR3 so that the noise level is at minimum.

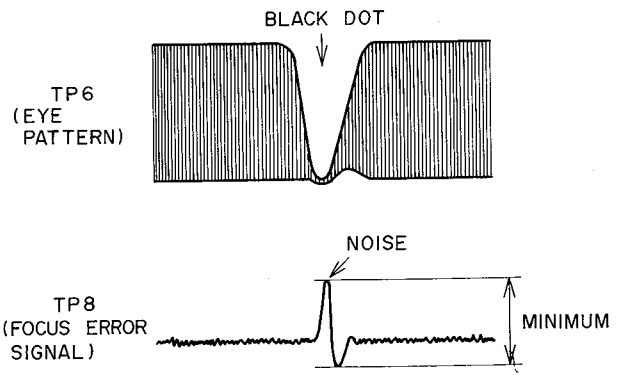


Fig. 6-12

6-1. ADJUSTMENT WHEN CHANGING THE PICK-UP

Change the pick-up, following the procedures in the item IV, and when replacement is complete turn the short terminal of the LD (Laser Diode) to open.

6-1-1. OPTICAL AXIS ADJUSTMENT

If the mechanical eccentricity is large when fixing the pick-up tracking errors become large.
This in turn interferes with the tracking servo, so optical axis adjustment is necessary.

1) Disconnect P8 on the Main P.C board (to turn the tracking servo off).
2) Connect an oscilloscope to TP7 on the Main P.C board.
3) Place the normal music disc, then play back the first music on it and observe the waveform of TP7.
4) Turn the adjustment screw Ⓐ by degrees (Refer to Fig. 6-2) as waveform of TP7 will become maximum.

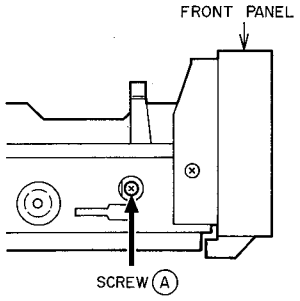


Fig. 6-2

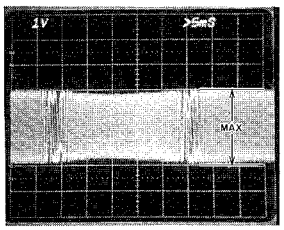


Fig. 6-3

6-1-2. READJUSTMENT OF E-F BALANCE

When the pick-up is changed, E-F balance adjustment must be performed. Refer to item 6-2-3 for adjustment.

6-1-3. CHECKING THE ELECTRIC CURRENT OF THE LASER

The electric current of the laser is indicated on the labels on the pick-up as shown Fig. 6-4.

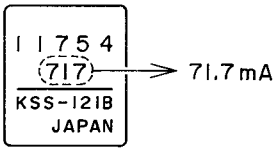


Fig. 6-4

1) Connect the Milli-Voltmeter between TP4 and TP5 on the Main P.C board and measure the voltage.

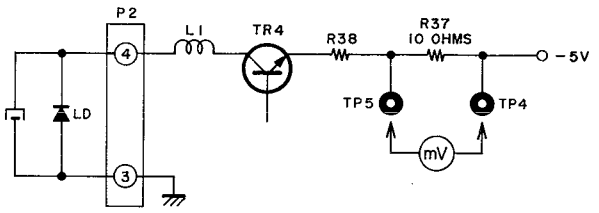


Fig. 6-5

2) Calculate the electric current of the laser from the voltage measured and check that is within ±4 mA of the recommended value.
Electric current of the laser = Voltage measured ÷ 10.
If the electric current of the laser exceeds ±4 mA of the recommended value, changed the pick-up again.

6-1-4. APC (AUTOMATIC POWER CONTROL) CIRCUITRY

This is a servo circuit to maintain the LD (Laser diode) power of the pick-up. The LD power has been adjusted by VR1 at manufacture. Keep safety from hazardous invisible laser Radiation, DO NOT TOUCH THIS VR1.

6-2. SERVO ADJUSTMENT

Servo adjustment is an adjustment to the control circuitry for accurate and safe disc play back. When adjusting use a SONY TYPE 3 (No. YEDS 7) or PHILIPS (No. 410056-2 or 400079-2) as a test disc.

6-2-1. VCD FREQUENCY ADJUSTMENT

1) Connect a short wire between TP2 and TP1 (GND).
2) Connect a Frequency counter to TP9 and GND.
3) Adjust VL1 so that the frequency is 7,350 ± 10 Hz.

6-2-2. PLL VCO ADJUSTMENT

1) Connect an oscilloscope to TP13 on the Main P.C board.
2) Insert the SONY TEST DISC TYPE-3, then depress the OPEN/CLOSE button to close the Disc tray.
3) The total music number selections on the test disc will be displayed on the LC display.
4) Play back the test disc and adjust VR1 so that the error flags are not appeared (or minimum error flags) at TP13.

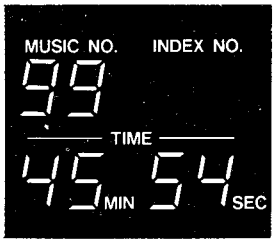


Fig. 6-6

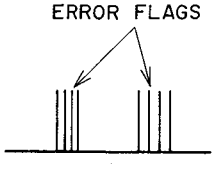


Fig. 6-7

RECOMMENDED SPARE PARTS LIST

We suggest you to stock the following Recommended Spare Part items listed below since they can cover most of the routine service.

NO.		PART NO.	DESCRIPTION
1		BM-P2005A110A	LOADING MOTOR BLK CD-M515
2		BM-P2005A140A	SLIDE MOTOR BLK CD-M515
3		BM-361225	SPINDLE MOTOR RF-310TB-11400
4		BO-359294	⚠ PICK UP KSS-121B
5	N	BT-362940	TRANS POWER P2006 (A,C)
6	N	BT-362942	TRANS POWER P2006 (B,S)
7	N	BT-362941	TRANS POWER P2006 (E,V)
8	N	BT-362939	TRANS POWER P2006 (J)
9	N	BT-362938	TRANS POWER P2006 (U)
10		ED-361055	⚠ D SILICON DS135E-UB1
11		ED-322238	⚠ D SILICON 1B4B41 100/1.0A
12	N	ED-365963	⚠ D SILICON 10DF1 FE-2 100/1.0A
13		ED-714631	D LED TLN105A
14		ED-360409	D PHOT PN323B
15		ED-718039	D SILICON DAN201
16		ED-344280	D SILICON H GMA-01-FY2 F05
17		ED-353692	D VARACTER SVC321 C,D DOUBLE
18		ED-316389	D ZENER H HZ11 A2
19		ED-319176	D ZENER H HZ12 A3
20		ED-331617	D ZENER H HZ6 A3
21		ED-300035	D ZENER H HZ6 B3
22		EF-355385	⚠ FUSE BET T 315MA 250V [B]
23		EF-358974	⚠ FUSE BET T 630MA 250V [B]
24		EF-695766	⚠ FUSE SEMKO T 315MA 250V [E,S]
25		EF-601942	⚠ FUSE SEMKO T 630MA 250V [E,S]
26	N	EI-365957	⚠ IC M528L05
27		EI-315243	⚠ IC TA78005AP
28	N	EI-362977	⚠ IC TA79005
29	N	EI-362973	IC AK-80
30		EI-330352	IC BA6109
31		EI-361234	IC CX20108
32		EI-361233	IC CX20109
33	N	EI-362974	IC CX20152
34		EI-361232	IC CX23035
35	N	EI-362975	IC HD6805SO
36		EI-356370	IC LA7224
37		EI-361230	IC LC7580
38		EI-355863	IC MB84053B
39	N	EI-366361	IC M50745-417SP
40		EI-337228	IC M5218L
41		EI-349719	IC M5218P
42		EI-362588	IC M5238P
43		EI-355904	IC M74LS04P [HD74LS04P]
44		EI-365187	IC SRM2016C15
45		EI-304657	IC TC4011BP
46		EI-362444	IC μPC4072C
47		EI-749983	IC μPD1943G
48		EI-349372	OSC CE CSA4.00MG 4MHZ
49		EI-749984	OSC CE KBR455BAT
50	N	EI-362979	OSC X'TAL P2006 67.7376MHZ
51	N	EL-362989	PL LEAD 14.0V 100MA
52	N	EM-362988	IND LC LCD-9428P
53	N	EO-362980	COIL VARI 1 P2006
54		EQ-348929	RELAY SIGNAL G5A-232P 2TR 12V
55		ER-318647	R FUSE ERD2FC S10 1/4W 4R7J
56		ES-357876	⚠ SW PUSH A2B-1A [C,A]
57		ES-357947	⚠ SW PUSH A2B-1A [U,J,E,B,S]
58		ES-362933	SW LEAF MSW-1294NBK
59		ES-344257	SW LEAF MSW-1418L 01-1 NO
60		ES-344274	SW SELECTOR HXW0244-01-060 01-4
61		ES-355842	SW SLIDE SSCTP1026A 01-2
62		ES-349474	SW TACT SKHHAM004A
63		ET-354897	TR FET 2SK170 BL,GR,V
64		ET-354882	TR FET 2SK170 GR
65		ET-308472	TR 2SA1115 E,F,G F05
66		ET-348829	TR 2SA1209 S,T
67		ET-352726	TR 2SA1392 T,U
68		ET-322698	TR 2SB632K E,F
69		ET-318237	TR 2SB764 E,F
70		ET-308141	TR 2SC2603 G F05
71		ET-348831	TR 2SC2911 S,T
72		ET-349081	TR 2SC3383 S,T
73		ET-338565	TR 2SD1302 R,S
74		ET-318603	TR 1SD545NP F
75		ET-310148	TR 2SD612K E,F
76		ET-200986	TR 2SD863-V8 F
77		EV-358829	R S-FIX H RH0615CJ4J 3P 223
78		EV-356583	R S-FIX H RH0615CN3J 3P 332
79		EV-356577	R S-FIX H RH0615C14J 3P 103
80		EV-357619	R S-FIX H RH0615C15J 3P 104
81	N	EV-362997	VR SLIDE RSGA2 S4528
82		MB-362932	BELT LOADING
83		MR-352158	PULLEY GEAR
84		MZ-359769	GEAR LOADING
85		MZ-359760	GEAR PICK UP (A)
86		MZ-359761	GEAR PICK UP (B)
87		MZ-359839	GEAR RACK
88		MZ-359762	GEAR WHEEL (A)
89		MZ-359767	HOLDER RAIL
90		MZ-362964	TURN TABLE CD

"NOTE" N: New Parts

VII. PARTS LIST

ATTENTION

1. **When placing an order for parts, be sure to list Part No., Model No. and the description of each part. Otherwise, the non-delivery of the part or the delivery of a wrong part may result.**
2. **Please make sure that Part No. is correct when ordering. If not, a part different from the one you ordered may be delivered.**
3. **Since the parts shown in Parts List of Preliminary Service Manual may have been the subject of changes, please use this Parts List for all future reference.**

HOW TO USE THIS PARTS LIST

1. This Parts List lists those parts which are considered necessary for repairs. Other common parts, such as resistors and capacitors, are listed in the "Common List for Service Parts" from which these parts should be selected and stocked.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the Parts List.

a) Mechanism Block

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20×03STL CMT
2-4	ZS-536488	BID20×08STL CMT
2-5	ZG-402895	SP CS ANGLE ADJUST

- SP (Service Parts) Classification
- A small "x" indicates that this part is not shown in the Photo or Illustration.
- This number corresponds with the individual parts index number in that figure.
- This number corresponds with the Figure Number.

b) PC Board

6. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-C1A	EC-338399	C MMY V 223M 250AC [U,E,B,S]
6-C1B	EC-350949	C MMY V 223M 250DC [J]
6-C1C	EC-338397	C MMY V 223M 125AC [C,A]
6-X1	EI-318384	OSC X'TAL NC-18C

- Symbols for primary destination
  [A]: AAL(U.S.A.) [S]: SAA(Australia)
  [B]: BEAB(England) [U]: U/T(Universal Area)
  [C]: CSA(Canada) [V]: VDE(W. Germany)
  [E]: CEE(Europe) [Y]: Custom Version
  [J]: JPN(Japan)
- SP (Service Parts) Classification
- These reference symbols correspond with component symbols in the Schematic Diagrams.

The available PC Board Blocks are listed separately.

5. When Part No. is known, Parts Index at end of Parts List can be used to locate where that part is shown in Parts List by its Reference No. listed at right of Part No.

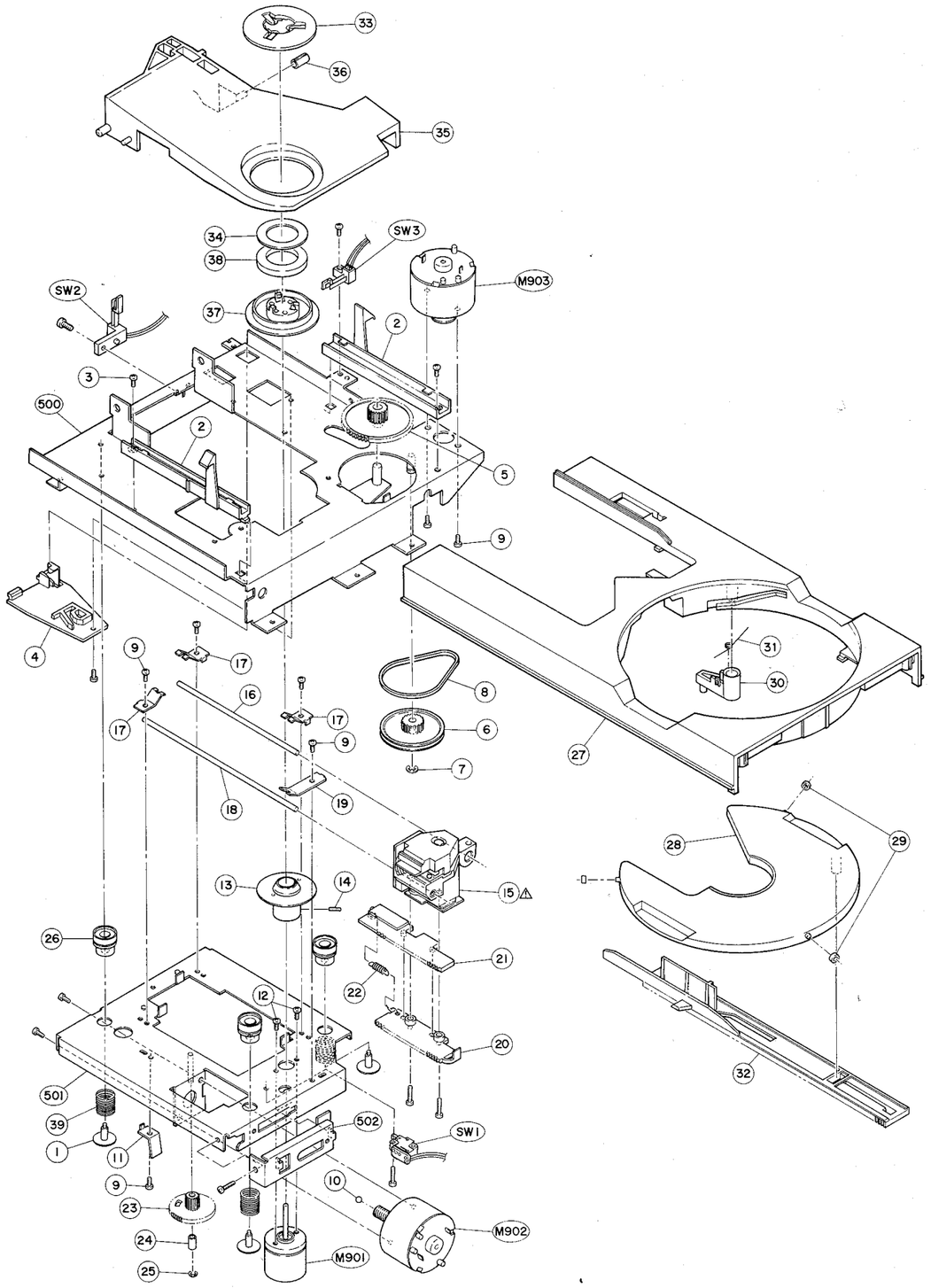
WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT

MECHA BLOCK



1. MECHA BLOCK

REF. NO.	PART NO.	DESCRIPTION
1-1	ZS-366253	SCREW (B)
1-2	MZ-359767	HOLDER RAIL
1-3	ZS-432843	PAN26x04STL CMT
1-4	MZ-359768	STOPPER TRAY
1-5	MZ-359769	GEAR LOADING
1-6	MR-352158	PULLEY GEAR
1-7	ZW-357164	RING E 230SUP CMT
1-8	MB-362932	BELT LOADING
1-9	ZS-592378	PAN26x03STL CMT
1-10	MV-368886	BALL 300STL
1-11	ZG-351817	SP PLATE THRUST
1-12	ZS-608095	PAN20x05STL CMT
*1-13	MZ-362964	TURN TABLE CD
*1-14	ZS-624870	6SET20x040SCM PKR HP
1-15	BO-359294	⚠ PICK UP KSS-121B
1-16	MS-359759	SHAFT SUB
1-17	MZ-351814	HOLDER SHAFT (A)
1-18	MS-351813A	SHAFT (A)
1-19	MZ-359836	HOLDER SHAFT (B)
1-20	MZ-359760	GEAR PICK UP (A)
1-21	MZ-359761	GEAR PICK UP (B)
1-22	ZG-357808	SP T6-03.2/0.29-11.2 T6-059
1-23	MZ-359762	GEAR WHEEL (A)
1-24	TC-676844	SPACER 3x6
1-25	ZW-270088	RING E190SUP CMT
1-26	MB-363112	CUSHION RUBBER (B)
1-27	SC-361087	COVER DISC TRAY
1-28	SZ-359775	HOLDER DISC
1-29	MR-345158	ROLLER
1-30	ML-359833	LEVER LOCK
1-31	ZG-359830	SP TORSION LEVER
1-32	MZ-359839	GEAR RACK
1-33	SC-359770	CAP CLAMP
1-34	MZ-361943	PLATE
1-35	MZ-359837	HOLDER CLAMPER
1-36	MH-639281	SPACER 3x8
1-37	MZ-359766	CLAMPER
1-38	MZ-362855	MAGNET FM27x17x3
1-39	ZG-366252	SP PUSH CUSHION
1-M901	BM-361225	SPINDLE MOTOR RF-310TB-11400
1-M902	BM-P2005A140A	SLIDE MOTOR BLK CD-M515
1-M903	BM-P2005A110A	LOADING MOTOR BLK CD-M515
1-SW1	ES-355842	SW SLIDE SSCTP1026A 01-2
1-SW2	ES-362933	SW LEAF MSW-1294NBK
1-SW3	ES-344257	SW LEAF MSW-1418L 01-1 NO

NOTE: The parts reference numbered here except the ones in 500's are normally stocked for replacement purpose. The rest of the parts shown in this manual are not stocked since they are seldom required for routine service.

NOTE *: When repairing 1-M901 (SPINDLE MOTOR) or 1-13 (TURN TABLE CD), replace the following items as a set.
- 1-M901 (SPINDLE MOTOR)
- 1-13 (TURN TABLE CD)
- 1-14 (6 SET20x040SCM PKP HP)

2. PC BOARD BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1	BA-P2006A020B	PC MAIN BLK CD-A70 [J]
2-1A	BA-P2006A020A	PC MAIN BLK CD-A70 [U]
2-1B	BA-P2006A020C	PC MAIN BLK CD-A70 [C,A]
2-1C	BA-P2006A020D	PC MAIN BLK CD-A70 [E,S]
2-1D	BA-P2006A020E	PC MAIN BLK CD-A70 [B]
2-1E	BA-P2006A020F	PC MAIN BLK CD-A70 [V]

NOTE: PC MAIN BLK consists of following PC BOARDS.

- MAIN PC BOARD
- HEAD PHONE PC BOARD
- DETECTOR PC BOARD

3. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
	MAIN PC BOARD	
3-IC1	EI-361232	IC CX23035
3-IC2	EI-361234	IC CX20108
3-IC3	EI-365187	IC SRM2016C15
3-IC4	EI-366361	IC M50745-417SP
3-IC5	EI-362973	IC AK-80
3-IC6	EI-362974	IC CX20152
3-IC7	EI-355863	IC MB84053B
3-IC8	EI-362975	IC HD6805SO
3-IC9	EI-330352	IC BA6109
3-IC10	EI-361233	IC CX20109
3-IC11,12	EI-362444	IC μPC4072C
3-IC13	EI-365957	⚠ IC M528L05
3-IC14	EI-315243	⚠ IC TA78005AP
3-IC15,16	EI-362977	⚠ IC TA79005
3-IC17	EI-349719	IC M5218P
3-IC18	EI-304657	IC TC4011BP
3-IC19to21	EI-362588	IC M5238P
3-IC22	EI-337228	IC M5218L
3-IC23	EI-356370	IC LA7224
3-IC24	EI-355904	IC M74LS04P [HD74LS04P]
3-TR1	ET-310148	TR 2SD612K E,F
3-TR2	ET-322598	TR 2SB632K E,F
3-TR3	ET-308141	TR 2SC2603 G F05
3-TR4	ET-200986	TR 2SD863-V8 F
3-TR5to8	ET-308141	TR 2SC2603 G F05
3-TR10	ET-318237	TR 2SB764 E,F
3-TR11	ET-310148	TR 2SD612K E,F
3-TR12	ET-322598	TR 2SB632K E,F
3-TR13	ET-310148	TR 2SD612K E,F
3-TR14	ET-200986	TR 2SD863-V8 F
3-TR15	ET-318237	TR 2SB764 E,F
3-TR16	ET-308141	TR 2SC2603 G F05
3-TR17	ET-308472	TR 2SA1115 E,F,G F05
3-TR18	ET-308141	TR 2SC2603 G F05
3-TR19	ET-308472	TR 2SA1115 E,F,G F05
3-TR21	ET-354897	TR FET 2SK170 BL,GR,V
3-TR22	ET-338565	TR 2SD1302 R,S
3-TR24	ET-308472	TR 2SA1115 E,F,G F05
3-TR25	ET-308141	⚠ TR 2SC2603 G F05
3-TR26to28	ET-308141	TR 2SC2603 G F05
3-TR29	ET-348829	⚠ TR 2SA1209 S,T
3-TR30	ET-348831	⚠ TR 2SC2911 S,T
3-TR31	ET-352726	TR 2SA1392 T,U
3-TR32	ET-349081	TR 2SC3383 S,T
3-TR33	ET-310148	⚠ TR 2SD612K E,F
3-TR34	ET-354882	TR FET 2SK170 GR
3-TR35	ET-349081	TR 2SC3383 S,T
3-TR36	ET-354414	TR DTC144ES
3-D1	ED-353692	D VARACTER SVC321 C,D DOUBLE
3-D2	ED-353692	D VARACTER SVC321 C,D DOUBLE
3-D3	ED-331617	D ZENER H HZ6 A3
3-D4	ED-344280	D SILICON H GMA-01-FY2 F05
3-D5	ED-300035	D ZENER H HZ6 B3
3-D6to10	ED-344280	D SILICON H GMA-01-FY2 F05
3-D11	ED-316389	D ZENER H HZ11 A2
3-D12	ED-322238	⚠ D SILICON 1B4B41 100/1.0A
3-D14,15	ED-361055	⚠ D SILICON DS135E-UB1
3-D16	ED-319176	D ZENER H HZ12 A3
3-D17	ED-319176	D ZENER H HZ12 A3
3-D18to22	ED-344280	D SILICON H GMA-01-FY2 F05
3-D23to26	ED-365963	⚠ D SILICON 10DF1 FE-2 100/1.0A
3-D27	ED-319176	D ZENER H HZ12 A3
3-D28	ED-344280	D SILICON H GMA-01-FY2 F05
3-RL1	EQ-348929	RELAY SIGNAL G5A-232P 2TR 12V
3-VS1	ES-344274	⚠ SW SELECTOR HXW0244-01-060 01-4
3-VR1	EV-356583	R S-FIX H RH0615CN3J 3P 332
3-VR2,3	EV-357619	R S-FIX H RH0615C15J 3P 104
3-VR4	EV-356577	R S-FIX H RH0615C14J 3P 103
3-VR5	EV-358829	R S-FIX H RH0615CJ4J 3P 223
3-VL1	EO-361227	COIL VARI 1 A119AN-16737Z
3-L1	EO-362980	COIL VARI 1 P2006
3-L2	EO-345913	COIL FIX 1 LSL03KH 100K
3-L3	EO-330719	COIL FIX1 187LY-103K 103K
3-L4	EO-365954	COIL VARI 1 25-5554-43
3-L5	EO-365955	COIL VARI 1 25-5555-43
3-L6	EO-365956	COIL VARI 1 25-5556-43
3-X2	EI-349372	OSC CE CSA4.00MG 4MHZ
3-X4	EI-362979	OSC X'TAL P2006 67.7376MHZ
3-IB1	EH-347437	COMP R EXB-P88194K
3-IB2	EH-343420	COMP R EXB-P84104K
3-FR1	ER-348272	⚠ R FUSE ERD2FC S10 1/4W 12R0G
3-FR2	ER-318647	⚠ R FUSE ERD2FC S10 1/4W 4R7J
3-R105	ER-338184	R MF H 1/4W 152J
3-R106	ER-350688	R MF H 1/4W 222J
3-R107	ER-309817	R MF V 1/4W 3302F
3-R108	ER-338590	R MF V 1/4W 1802F
3-R109	ER-309804	R MF V 1/4W 3901F
3-R110	ER-337864	R MF H 1/4W 822J
3-R111	ER-338590	R MF V 1/4W 1802F
3-R112,113	ER-309801	R MF V 1/4W 3301F
3-R114	ER-349594	R MF H 1/4W 102J
3-R115	ER-302156	R MF H 1/4W 472J
3-R116	ER-354581	R MF V 1/4W 2703F
3-R117	ER-338187	R MF H 1/4W 153J
3-R118	ER-338183	R MF H 1/4W 104J
3-R121	ER-309814	R MF V 1/4W 1002F
3-R122	ER-317894	R MF H F10 1/4W 2200F
3-R145,146	ER-337863	R MF H 1/4W 101J
3-R150to154	ER-333013	R OMF H S20 FS 2W 3R9J
3-R163,164	ER-347959	R MF H 1/4W 561J
3-R165,166	ER-352418	R MF H F10 1/4W 6R20F
3-C31	EC-305428	C TT V D 3R3M 10DC
3-C43	EC-307684	C EC V F05 NP SM R47M 50DC
3-C77	EC-346690	C STY V S05 CQFS 222J 250DC
3-C79	EC-362234	C STY V S05 CQ09S2B 221J 125DC
3-C80	EC-355730	C PP V F05 PP 182J 50DC
3-C81	EC-347371	C MC V F05 FE92 180J 500DC
3-C84	EC-365182	C STY V S05 CQ09S2B 431J 125DC
3-C85,86	EC-315967	C EC V CUT SM 332M 16.0DC
3-C87,88	EC-362464	C EC V CUT AS1 222M 25.0DC
3-C100	EC-320548	⚠ C CE V F 103Z 250AC [U,J]
3-C100A	EC-338411	⚠ C CE V FZ 103P 400AC [C,A,E,B,S]
3-C102	EC-347093	C PP V F05 PP 331J 50DC
3-C103	EC-357825	C PP V F05 PP 122J 50DC

REF. NO.	PART NO.	DESCRIPTION
3-C104	EC-362734	C STY V S05 CQ09S2B 222J 125DC
3-P5	EJ-362983	PIN J P2006 [J]
3-P5A	EJ-337424	PIN J AJC-034-ABB P 2P [EXCEPT J]
3-J1	EJ-362303	DIN J TPX3204-01-030 8P
	ASSEMBLY BLOCK	
3-F1	EF-601942	⚠ FUSE SEMKO T 630MA 250V [E,X]
3-F1A	EF-358974	⚠ FUSE BET T 630MA 250V[B]
3-F2	EF-601942	⚠ FUSE SEMKO T 630MA 250V [E,S]
3-F2A	EF-358974	⚠ FUSE BET T 630MA 250V[B]
3-F3	EF-695766	⚠ FUSE SEMKO T 315MA 250V [E,S]
3-F3A	EF-355385	⚠ FUSE BET T 315MA 250V[B]
3-F4	EF-695766	⚠ FUSE SEMKO T 315MA 250V [E,S]
3-F4A	EF-355385	⚠ FUSE BET T 315MA 250V[B]

6. LCD PC BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC101	EI-361230	IC LC7580
6-IN1	EM-362988	IND LC LCD-9428P
6-IN2	EL-362989	PL LEAD 14.0V 100MA
6-1	EZ-361808	HOLDER LAMP EQ-300-42101A (WHITE)

7. DETECTOR PC BOARD

REF. NO.	PART NO.	DESCRIPTION
7-D101	ED-360409	D PHOT PN323B

3A. SUB CODE PC BOARD (V ONLY)

REF. NO.	PART NO.	DESCRIPTION
3A-L1	EO-669273	COIL FIX 2 FL5R200 180
3A-L2	EO-669273	COIL FIX 2 FL5R200 180
3A-L3	EO-669273	COIL FIX 2 FL5R200 180
3A-L4	EO-669273	COIL FIX 2 FL5R200 180
3A-L5	EO-669273	COIL FIX 2 FL5R200 180
3A-L6	EO-669273	COIL FIX 2 FL5R200 180
3A-L7	EO-669273	COIL FIX 2 FL5R200 180
3A-L8	EO-669273	COIL FIX 2 FL5R200 180

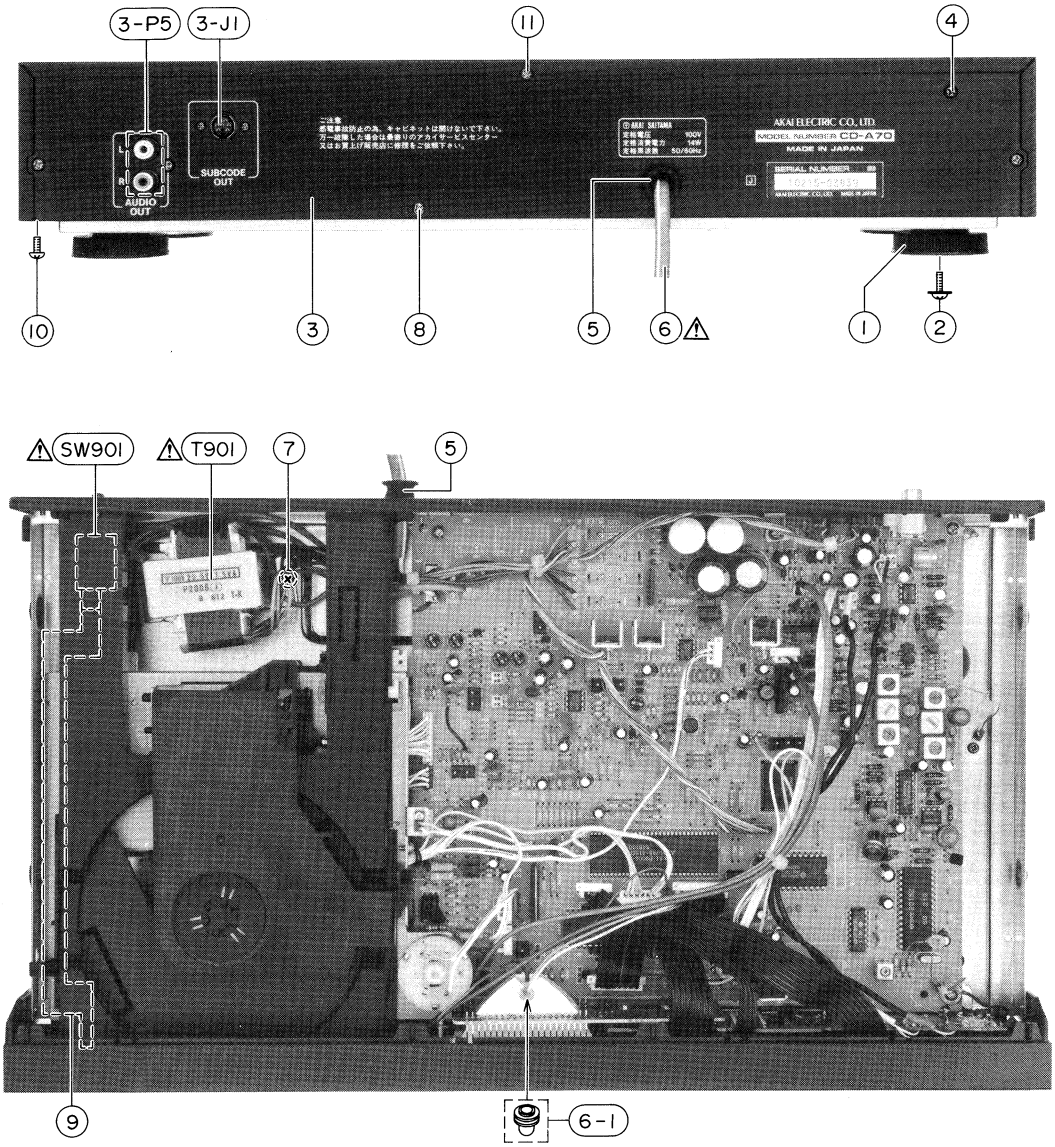
4. OPERATION PC BOARD

REF. NO.	PART NO.	DESCRIPTION
4-TS1to26	ES-349474	SW TACT SKHHAM004A
4-VR101	EV-362997	VR SLIDE RSGA2 S4528

5. HEAD PHONE PC BOARD

REF. NO.	PART NO.	DESCRIPTION
5-J101	EJ-355012	PHONE J 3P HLJ0541-010 6.3

ASSEMBLY BLOCK

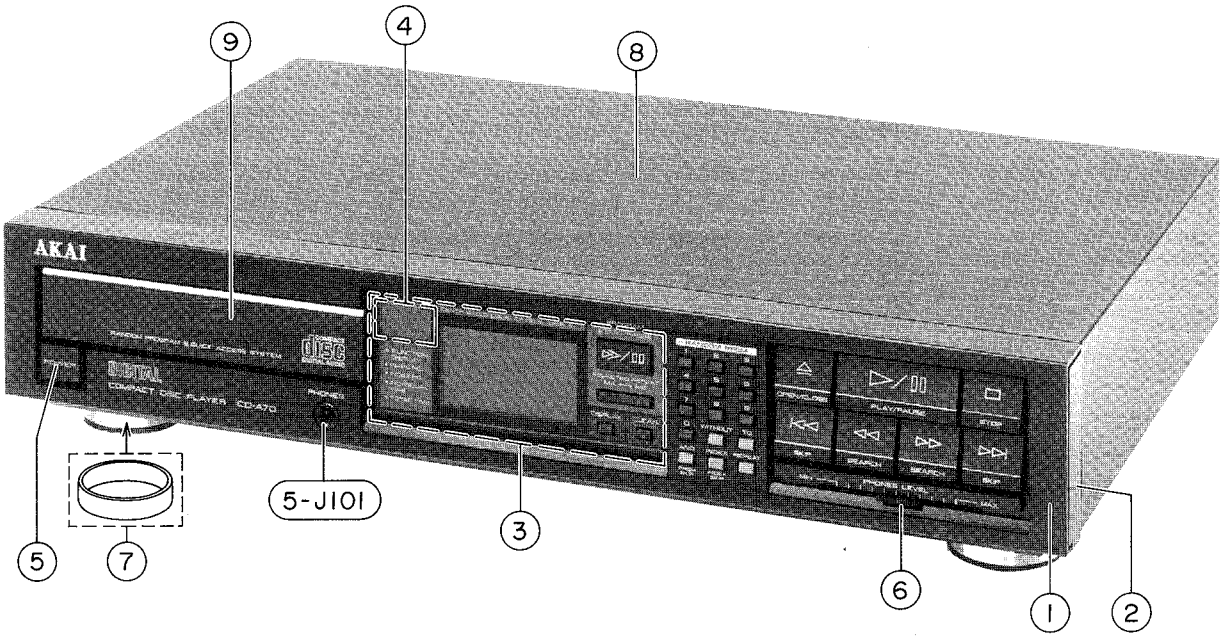


8. ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
	ASSEMBLY BLOCK	
8-1	SA-364520	INSULATOR CD
8-2	ZS-369042	SCREW Y2358
8-3	SP-362614G	PANEL REAR CD-A70 [J]
8-3A	SP-362614F	PANEL REAR CD-A70 [U]
8-3B	SP-362614H	PANEL REAR CD-A70 [A,C]
8-3C	SP-362614J	PANEL REAR CD-A70 [E]
8-3D	SP-362614K	PANEL REAR CD-A70 [B,S]
8-3E	SP-362614U	PANEL REAR CD-A70 [V]
8-4	ZS-354403	ST BR30x08STL BNI
8-5	EZ-361283	STRAIN RELIEF SR-5N-5 [J]
8-6	EW-361248	⚠ AC CORD 2CORES KP-210 BL [J]
8-6A	EW-363659	⚠ AC CORD 200 0129AVFF B070 A U/T [U]
8-6B	EW-363801	⚠ AC CORD 200 0238PSPT1 B070 A UC [C,A]
8-6C	EW-363672	⚠ AC CORD 200 0364 LCFL B070 A EV [E]
8-6D	EW-363684	⚠ AC CORD 200 LCFL B070 A B [B]
8-6E	EW-363698	⚠ AC CORD 200 0436 LCFL B070 A S [S]

REF. NO.	PART NO.	DESCRIPTION
8-7	ZS-304022	ST PAN40x06STL CMT [TRANS POWER FIX]
8-8	ZS-366240	T2BR30x06STL BNI PROJECTION
8-9	MZ-362601	JOINT POWER
8-10	ZS-341989	ST CTS30x06STL CMT [COVER UPPER FIX]
8-11	ZS-463353	T2BR30x08STL BNI [COVER UPPER FIX]
8-T901	BT-362939	⚠ TRANS POWER P2006 [J]
8-T901A	BT-362938	⚠ TRANS POWER P2006 [U]
8-T901B	BT-362940	⚠ TRANS POWER P2006 [A,C]
8-T901C	BT-362941	⚠ TRANS POWER P2006 [E,V]
8-T901D	BT-362942	⚠ TRANS POWER P2006 [B,S]
8-SW901	ES-357947	⚠ SW PUSH A2B-1A [U,J,E,B,S]
8-SW901A	ES-357876	⚠ SW PUSH A2B-1A [C,A]
8-SW901A	ES-357876	⚠ SW PUSH A2B-1A [C,A]
	MAIN PC BOARD	
3-P5	EJ-362983	PIN J P2006 [J]
3-P5A	EJ-337424	PIN J AJC-034-ABB P 2P [EXCEPT J]
3-J1	EJ-362303	DIN J TPX3204-01-030 8P

FINAL ASSEMBLY BLOCK



9. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
	FINAL ASSEMBLY BLOCK	
9-1	SC-362743A	COVER FRONT PANEL
9-1-B	SC-362743B	COVER FRONT PANEL-B
9-2	BD-B365255-A	PANEL FRONT PART
9-2-B	BD-B365256-A	PANEL FRONT-B PART
9-3	SZ-362749	WINDOW LCD
9-4	SZ-361424	PLATE REMOCON
9-5	SK-362609A	KNOB POWER
9-5-B	SK-362609B	KNOB POWER-B
9-6	SK-355248A	KNOB SLIDE
9-6-B	SK-355248B	KNOB SLIDE-B
9-7	SZ-364521	CAP INSULATOR
9-8	SP-362613C	COVER UPPER 2
9-8-B	SP-362613D	COVER UPPER 2-B
9-9	SP-362611A	PANEL TRAY CD-A30(J) [J]
9-9A	SP-362611C	PANEL TRAY CD-A30[EXCEPT J]
9-9-B	SP-362611B	PANEL TRAY CD-A30(J)-B [J]
9-9A-B	SP-362611D	PANEL TRAY CD-A30-B [EXCEPT J]
9-10x	ZS-350934	PT BR30x08STL BNI [PANEL TRAY FIX]
	HEAD PHONE PC BOARD	
5-J101	EJ-355012	PHONE J 3P HLJ0541-010 6.3

SYMBOL FOR COLOR VARIATION

Non : Standard Color
-B : Black

10. REMOTE CONTROL UNIT RC-700

REF. NO.	PART NO.	DESCRIPTION
10-1	AX-363094	REMOCON RC-700-S WIRELESS (T)
10-1-B	AX-363095	REMOCON RC-700-B WIRELESS (T)
10-IC1	EI-749983	IC μPD1943G
10-TR1	ET-318603	TR 2SD545NP F (2SD1469)
10-D1	ED-714631	D LED TLN105A
10-D2	ED-714631	D LED TLN105A
10-D3	ED-718039	D SILICON DAN201
10-D4	ED-718039	D SILICON DAN201
10-X1	EI-749984	OSC CE KBR455BAT

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PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.	PART NO.	REF. NO.
AX-363094	10-1	EI-337228	3-IC22	ES-349474	4-TS2	ML-359833	1-30
AX-363095	10-1-B	EI-349372	3-X2	ES-349474	4-TS3	MR-345158	1-29
BA-P2006A020A	2-1A	EI-349719	3-IC17	ES-349474	4-TS4	MR-352158	1-6
BA-P2006A020B	2-1	EI-355863	3-IC7	ES-349474	4-TS5	MS-351813A	1-18
BA-P2006A020C	2-1B	EI-355904	3-IC24	ES-349474	4-TS6	MS-359759	1-16
BA-P2006A020D	2-1C	EI-356370	3-IC23	ES-349474	4-TS7	MV-368886	1-10
BA-P2006A020E	2-1D	EI-361230	6-IC101	ES-349474	4-TS8	MZ-351814	1-17
BA-P2006A020F	2-1E	EI-361232	3-IC1	ES-349474	4-TS9	MZ-359760	1-20
BD-B365255-A	9-2	EI-361233	3-IC10	ES-349474	4-TS10	MZ-359761	1-21
BD-B365256-A	9-2-B	EI-361234	3-IC2	ES-349474	4-TS11	MZ-359762	1-23
BM-P2005A110A	1-M903	EI-362444	3-IC11	ES-349474	4-TS12	MZ-359766	1-37
BM-P2005A140A	1-M902	EI-362444	3-IC12	ES-349474	4-TS13	MZ-359767	1-2
BM-361225	1-M901	EI-362588	3-IC19	ES-349474	4-TS14	MZ-359768	1-4
BO-359294	1-15	EI-362588	3-IC20	ES-349474	4-TS15	MZ-359769	1-5
BT-362938	8-T901A	EI-362588	3-IC21	ES-349474	4-TS16	MZ-359836	1-19
BT-362939	8-T901	EI-362973	3-IC5	ES-349474	4-TS17	MZ-359837	1-35
BT-362940	8-T901B	EI-362974	3-IC6	ES-349474	4-TS18	MZ-359839	1-32
BT-362941	8-T901C	EI-362975	3-IC8	ES-349474	4-TS19	MZ-361943	1-34
BT-362942	8-T901D	EI-362977	3-IC15	ES-349474	4-TS20	MZ-362601	8-9
EC-305428	3-C31	EI-362977	3-IC16	ES-349474	4-TS21	MZ-362855	1-38
EC-307684	3-C43	EI-362979	3-X4	ES-349474	4-TS22	MZ-362964	1-13
EC-315967	3-C85	EI-365187	3-IC3	ES-349474	4-TS23	SA-364520	8-1
EC-315967	3-C86	EI-365957	3-IC13	ES-349474	4-TS24	SC-359770	1-33
EC-320548	3-C100	EI-366361	3-IC4	ES-349474	4-TS25	SC-361087	1-27
EC-338411	3-C100A	EI-749983	10-IC1	ES-349474	4-TS26	SC-362743A	9-1
EC-346690	3-C77	EI-749984	10-X1	ES-355842	1-SW1	SC-362743B	9-1-B
EC-347093	3-C102	EJ-337424	3-P5A	ES-357876	8-SW901A	SK-355248A	9-6
EC-347371	3-C81	EJ-355012	5-J101	ES-357947	8-SW901	SK-355248B	9-6-B
EC-355730	3-C80	EJ-362303	3-J1	ES-362933	1-SW2	SK-362609A	9-5
EC-357825	3-C103	EJ-362983	3-P5	ET-200986	3-TR4	SK-362609B	9-5-B
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EC-362464	3-C87	EM-362988	6-IN1	ET-308141	3-TR3	SP-362611B	9-9-B
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EC-362734	3-C104	EO-345913	3-L2	ET-308141	3-TR6	SP-362611D	9-9A-B
EC-365182	3-C84	EO-361227	3-VL1	ET-308141	3-TR7	SP-362613C	9-8
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ED-322238	3-D12	EO-669273	3A-L3	ET-308141	3-TR27	SP-362614K	8-3D
ED-331617	3-D3	EO-669273	3A-L4	ET-308141	3-TR28	SP-362614U	8-3E
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ED-344280	3-D18	ER-302156	3-R115	ET-310148	3-TR33	ZG-357808	1-22
ED-344280	3-D19	ER-309801	3-R112	ET-318237	3-TR10	ZG-359830	1-31
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ED-344280	3-D22	ER-309814	3-R121	ET-322598	3-TR2	ZS-341989	8-10
ED-344280	3-D28	ER-309817	3-R107	ET-322598	3-TR12	ZS-350934	9-10x
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ED-361055	3-D15	ER-333013	3-R154	ET-349081	3-TR35	ZS-432843	1-3
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ED-718039	10-D3	ER-338184	3-R105	EV-357619	3-VR2		
ED-718039	10-D4	ER-338187	3-R117	EV-357619	3-VR3		
EF-355385	3-F3A	ER-338590	3-R108	EV-358829	3-VR5		
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ABBREVIATIONS (COMPACT DISC)

ABBREVIATION	EXPLANATION	ABBREVIATION	EXPLANATION
A-D	Analog to Digital (Convertor)	Mb	Mega Bits
ADC	Analog to Digital (Convertor)	MDA	Motor Drive Amplifier
BCD	Binary Code Decimal	MFM	Modified Frequency Modulation
BPI	Bits per Inch	MM	Mono-stable Multivibrator
CD	Compact Disc	M^2FM	Modified Modified Frequency Modulation
CIRC	Cross Interleaving & Reed Solomon Coding	MOD 2	Modulo 2 (Addition)
CLV	Constant Linear Velocity	MP	Microprocessor
CP	Clock Pulses	MSB	Most Significant Bit
CRCC	Cyclic Redundancy Check Codes	NA	Numerical Aperture
D Level	Decision Level	NRZ	Non Return to Zero
D-A	Digital to Analog (Convertor)	NRZ-I	Non Return to Zero Inverted
DAC	Digital to Analog (Convertor)	P	Parity Data
DAD	Digital Audio Disc	PAM	Pulse Amplitude Modulation
DEM	Dynamic Element Matching	PCM	Pulse Code Modulation
DPD	Differential Phase Detection	PD	Phase Detector
DSV	Digital Sum Value	PE	Phase Encode
EFM	Eight to fourteen Modulation	PLL	Phase Locked Loop
EX-OR	EXclusive OR	PNM	Pulse Number Modulation
FCI	Flux Changes per Inch	PPM	Pulse Phase Modulation
FIR	Finite Impulse Response	PWM	Pulse Width Modulation
FP	Front Pulse	Q	Parity Data
FPG	Front Pulse Gate	R,R_1,R_2etc	Data for Right Channel
f	Frequency of Sampling	RAM	Random Access Memory
GF	Galois Field	RPG	Rear Pulse Gate
H&V(Parity)	Horizontal & Vartical	SCOOP	Self Coupled Optical Pick-up
IIR	Infinite Impulse Response	S&H	Sample & Hold
kb	Kilo Bits	S/N	Signal to Noise Ratio
L,L_1,L_2etc	Data for Left Channel	SSG	Standerd Signal Generator
LPF	Low Pass Filter	SYS CON	SYStem CONtrol
LSB	Least Significant Bit		

AKAI

MODEL CD-A70

SCHEMATIC DIAGRAM AND PC BOARDS

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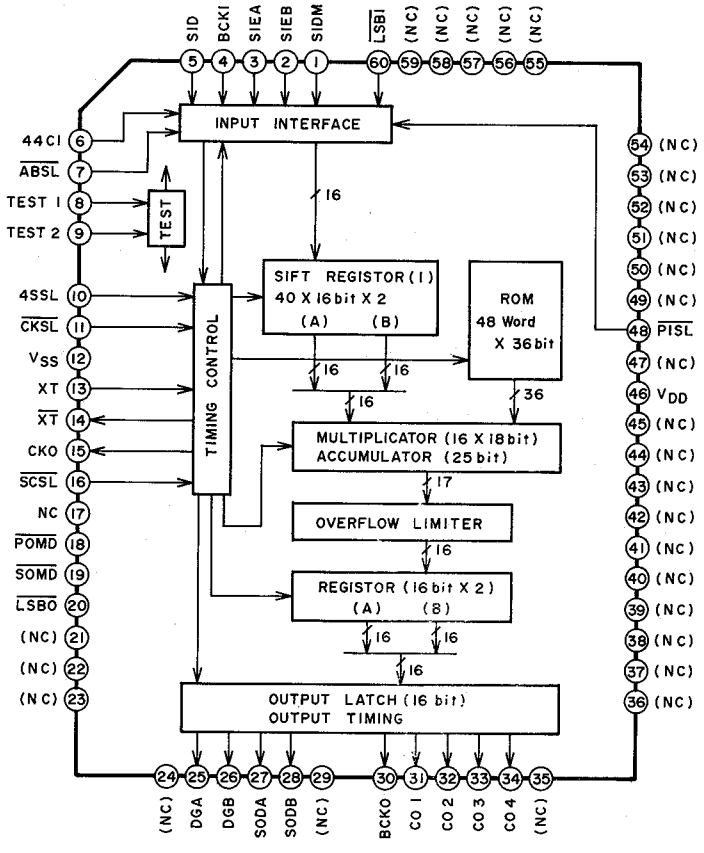
PURPOSE OF IC's

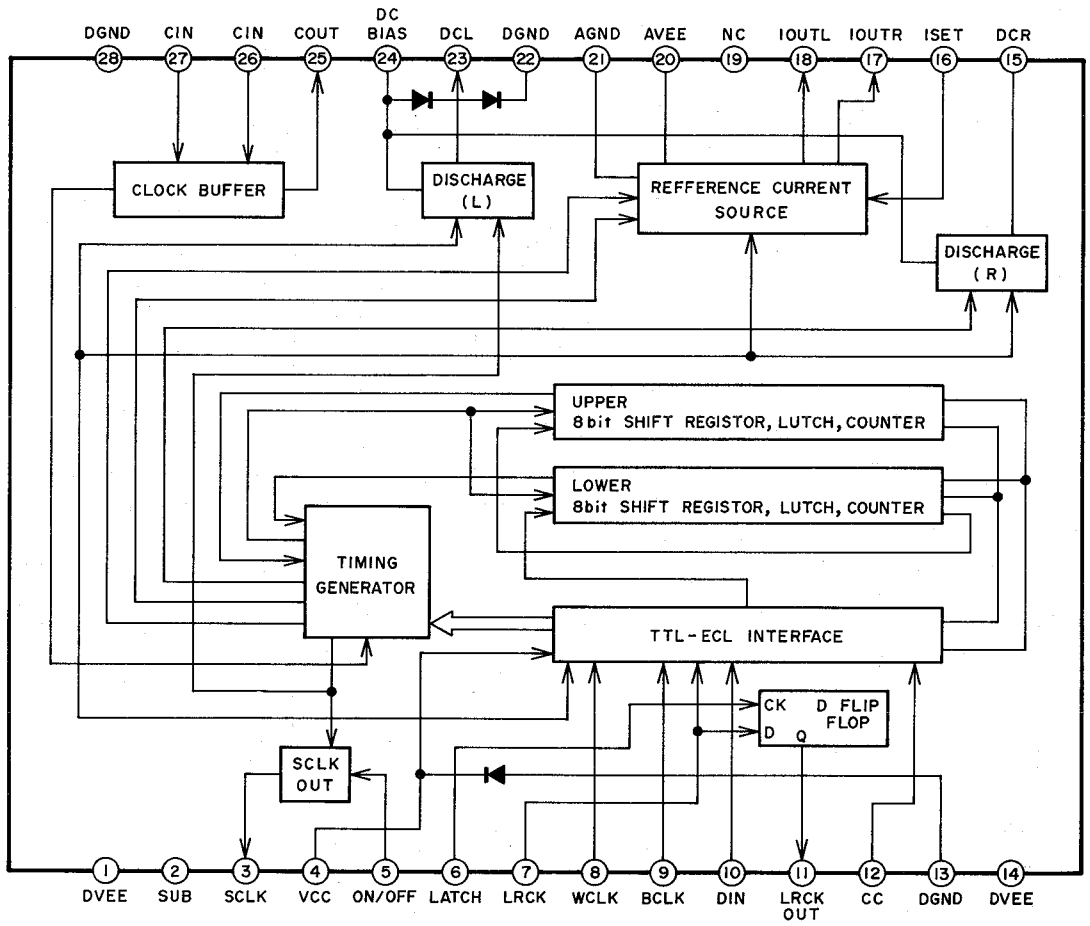
IC NO.	NAME OF IC's	PURPOSE
IC1	CX23035	EMF DEMODULATOR, ERROR DETECTION AND CORRECTION, FRAME SYNC DETECTION, SUB CODE DETECTION AND DEMODULATION, SPINDLE MOTOR SERVO
IC2	CX20108	SERVO SIGNAL PROCESSER
IC3	SRM2016C15	16K BIT RAMDAM ACCESS MEMORY
IC4	M50754-417SP	SYSTEM CONTROL (8 BIT MICROCOMPUTER)
IC5	AX80	OVER-SAMPLING DIGITAL FILTER
IC6	CX20152	16 BIT D/A CONVERTOR
IC7	MB84053B	TRIPE-2 CHANNEL MULTIPLEXER/DEMULTIPLEXER
IC8	HD6805SD	SYSTEM CONTROL (4 BIT MICROCOMPUTER)
IC9	BA6109	MOTOR CONTROL
IC10	CX20109	RF AMPLIFIER
IC11, 12	MPC4072C	DUAL LOW NOISE OPERATIONAL AMPLIFIER
IC13, 15	M5278L05	VOLTAGE REGULATOR
IC14	TA78005AP	VOLTAGE REGULATOR
IC16	TA79005	VOLTAGE REGULATOR
IC17	M5218P	DUAL LOW NOISE OPERATIONAL AMPLIFIER
IC18	TC4011BP	NAND GATE
IC19, 20, 21	M5238P	DUAL LOW NOISE OPERATIONAL AMPLIFIER
IC22	M5218L	DUAL LOW NOISE OPERATIONAL AMPLIFIER
IC23	LA7224	PRE-AMPLIFIER FOR REMOTE CONTROL
IC24	HD74LS04P	HEX INVERTER
IC101	LC7580	LCD DISPLAY DRIVER

AX-80

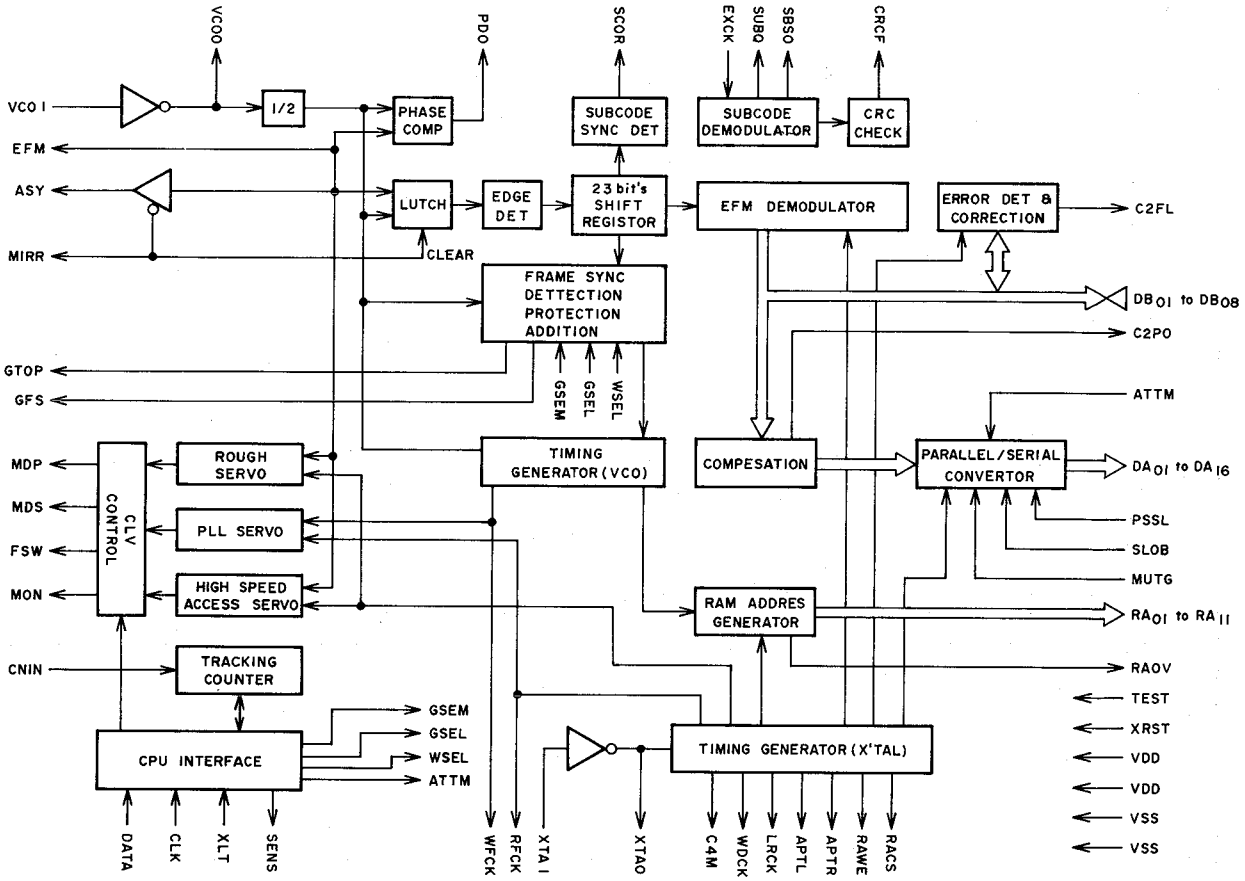


(NC) : WHEN PISL = H (or OPEN)

CX20152



Pin No.	Symbol	Description
1	DV	Digital (−5V) power supply
2	SUB	Base IC (should be connected to pin 1)
3	SCLK	System clock OUTPUT
4	Vcc	Vcc (+5V) for Digital
5	ON/OFF	ON/OFF select for system clock
6	LATCH	Clock for D type lutch
7	LRCK	LRCK input
8	WCLK	WCLK input
9	BCLK	BCLK input
10	DIN	Data input
11	LRCKOUT	LRCK output
12	CC	CC input
13	DGND	Digital GND
14	DV	Digital (−5V) power supply
15	DCR	R CH discharge drive signal output
16	ISET	Integrater ampere terminal
17	IOURT	R CH current output
18	IOUTL	L CH current output
19	NC	No connection
20	AV	Analgue power supply
21	AGND	Analgue GND
22	DGND	Digital GND
23	DCL	L CH discharge drive signal output
24	DCBIAS	Bias for discharge circuit
25	COUT	Clock OSC out
26	CIN	Clock OSC
27	CIN	Clock OSC
28	DGND	Digital GND



Pin No.	Symbol	I/O	Description
1	FSW	O	Spindle motor filter switching control
2	MON	O	Spindle motor ON/OFF control
3	MDP	O	Spindle motor speed and phase control
4	MDS	O	Spindle motor speed control
5	EFM	I	EFM signal input
6	ASY	O	EFM signal slice level control
7	MIRR	I	MIRR signal input "L" on track "H" mirror
8	VCOO	O	VCO output f = 8.6436 MHz
9	VCOI	I	VCO input
10	TEST	I	0V (GND)
11	PDO	O	Phase comp. output
12	VSS	—	GND (0V)
13	CLK	I	Clock signal from CPU
14	XLT	I	Lutch signal from CPU
15	DATA	I	Serial data from CPU
16	XRST	I	RESET input "L" reset
17	CNIN	I	Tracking pulse input (+5V)
18	SENS	O	Output of CPU interface
19	MUTG	I	Mute control signal input
20	CRCF	O	CRC check output of the subcode Q "L" detect error
21	EXCK	I	Clock input for Subcode serial output
22	SBSO	O	Subcode serial output
23	SUBQ	O	Subcode Q output
24	SCOR	O	Subcode sync detection output
25	WFCK	O	Not used (Write frame clock)
26	RFCK	O	Not used (Read frame clock)
27	GTOP	O	Frame sync detection output
28	GFS	O	"H" frame sync lock "L" frame sync unlock

Pin No.	Symbol	I/O	Description
29	DB08	I/O	Data 8 (MSB) } Data Bus line for the EXT. RAM (SRM2016C15)
30	DB07	I/O	Data 7
31	DB06	I/O	Data 6
32	DB05	I/O	Data 5
33	VDD	—	+5V
34	DB04	I/O	Data 4 } Data Bus line for the EXT. RAM (SRM2016C15)
35	DB03	I/O	Data 3
36	DB02	I/O	Data 2
37	DB01	I/O	Data 1 (LSB)
38	RA01	O	ADDR01 (LSB) } Address signal output for the EXT. RAM (SRM2016C15)
39	RA02	O	ADDR02
40	RA03	O	ADDR03
41	RA04	O	ADDR04
42	RA05	O	ADDR05
43	RA06	O	ADDR06
44	RA07	O	ADDR07
45	RA08	O	ADDR08
46	RA09	O	ADDR09
47	RA10	O	ADDR10
48	RA11	O	ADDR11 (MSB)
49	RAWE	O	Write enable signal output "L" active
50	RACS	O	Chip select signal output "L" active
51	C4M	O	Not used
52	VSS	—	GND (0V)
53	XTAI	I	X'TAL OSC. input f = 8.4672 MHz
54	XTAO	O	X'TAL OSC. output f = 8.4672 MHz
55	C2FL	O	Monitor of error detection *
56	C2PO	O	Not used
57	RAOV	O	Not used
58	SLOB	I	0V (GND)
59	PSSL	I	0V (GND)
60	APTR	O	Not used
61	APTL	O	Not used
62	DA01	O	C1F1 *
63	DA02	O	C1F1 *
64	DA03	O	C2F1 * Not used
65	DA04	O	C2F2 * Not used
66	DA05	O	UGFS Not used
67	DA06	O	$\overline{\text{WFCK}}$ INV write frame clock signal output
68	DA07	O	Not used FCKV 1/4 or 1/8 WFCK output
69	DA08	O	Not used FCKX 1/4 or 1/8 RFCK output
70	DA09	O	Not used $\overline{\text{PLCK}}$ 1/2 VCO output
71	DA10	O	Not used $\overline{\text{LRCK}}$ INV. LRCK (Pin 80)
72	DA11	O	Not used C4LR 176.4 kHz strobe signal output
73	VDD	—	+5V
74	DA12	O	$\overline{\text{DENL}}$ L-ch serial data enable signal
75	DA13	O	$\overline{\text{DENR}}$ R-ch serial data enable signal
76	DA14	O	$\overline{\text{C210}}$ INV. C210 (Pin 77)
77	DA15	O	Not used C210 Bit clock f= 2.1168 MHz
78	DA16	O	Data output
79	WDCK	O	Not used Worde clock output 88.2 kHz strobe signal
80	LRCK	O	Not used L-ch. R-ch clock out 44.1 kHz strobe signal

* Monitor Signal refer to Fig. 1 & Fig. 2

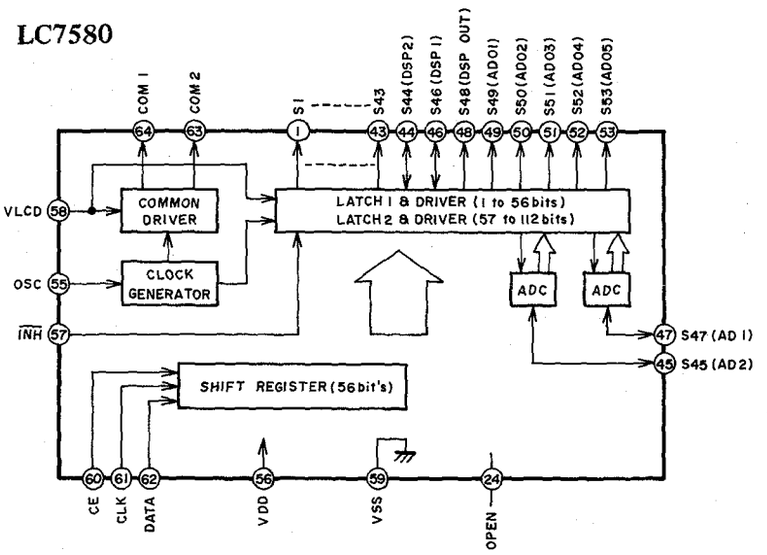
C1F1	C1F2	C1 Correction
O	O	No error
I	O	Signal error correction
O	I	Double error correction
I	I	Irretrievable error

Fig. 1

C2F1	C2F2	C2FL	C2 Correction
O	O	O	No error
I	O	O	Signal error correction
O	I	O	Double error correction
I	I	I	Irretrievable error

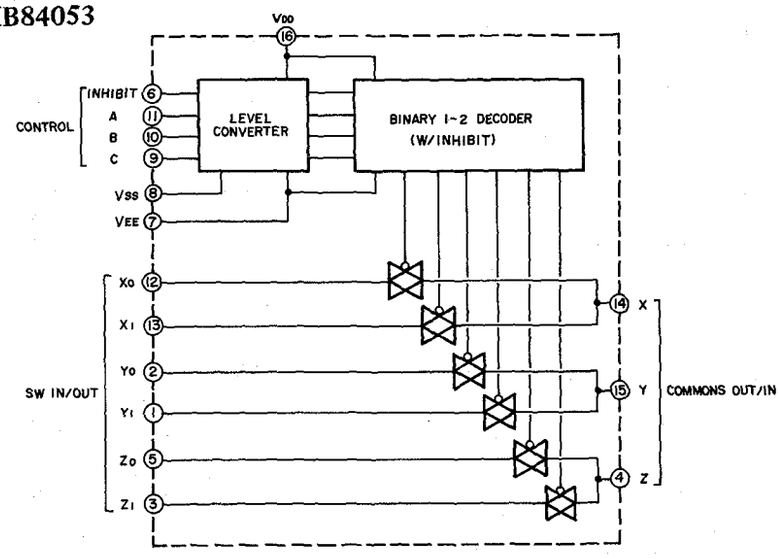
Fig. 2

LC7580



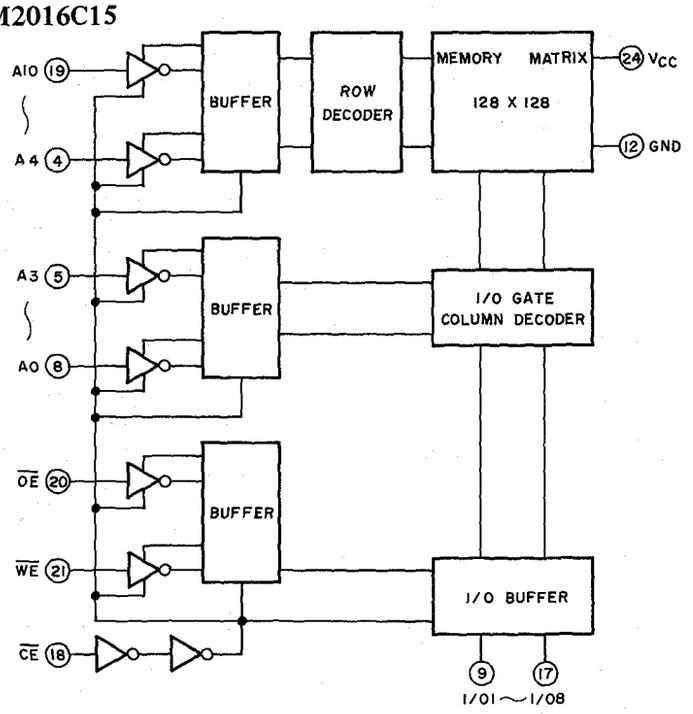
S1 ~ S43	Segment drive Output
S46 (DSP), S44 (DSP2)	Segment drive Output/DSP Input
S47 (AD1), S45 (AD2)	Segment drive Output/AD Input
S48 (DSP OUT)	Segment drive Output/DSP Output
S49 ~ S53	Segment drive Output/AD Output
COM 1, 2	Common Output
V LCD	LCD Bias voltage
OSC	OSC control
CE, CLK, Data	Serial data Input
VSS, VDD	GND, +5V
$\overline{INH}$	Display OFF signal Input
Open	Not used

MB84053

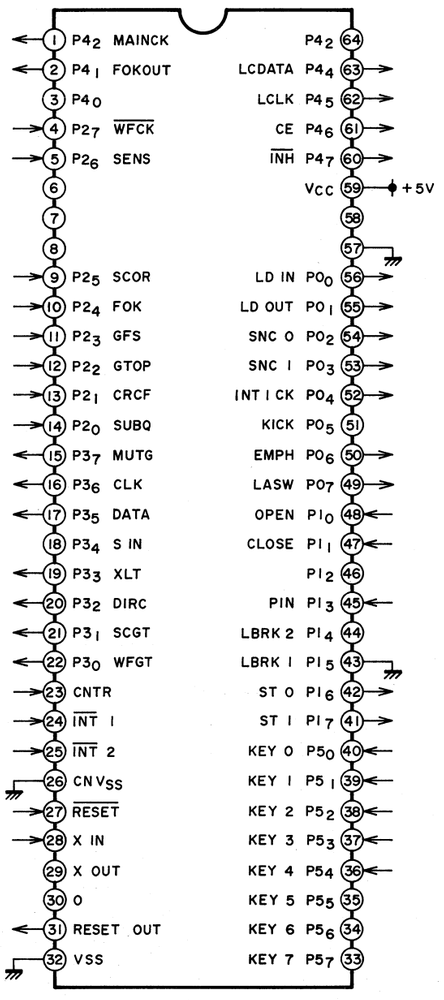


Controls				"ON" channel		
INH	C	B	A			
0	0	0	0	Z_0	Y_0	X_0
0	0	0	1	Z_0	Y_0	X_1
0	0	1	0	Z_0	Y_1	X_0
0	0	1	1	Z_0	Y_1	X_1
0	1	0	0	Z_1	Y_0	X_0
0	1	0	1	Z_1	Y_0	X_1
0	1	1	0	Z_1	Y_1	X_0
0	1	1	1	Z_1	Y_1	X_1
1	–	–	–	None		

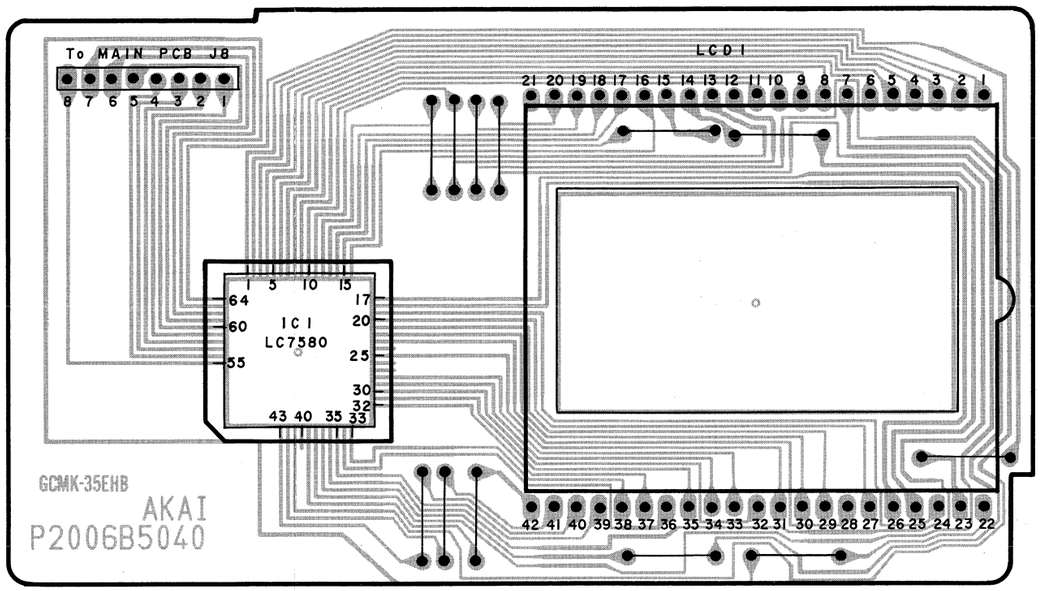
SRM2016C15



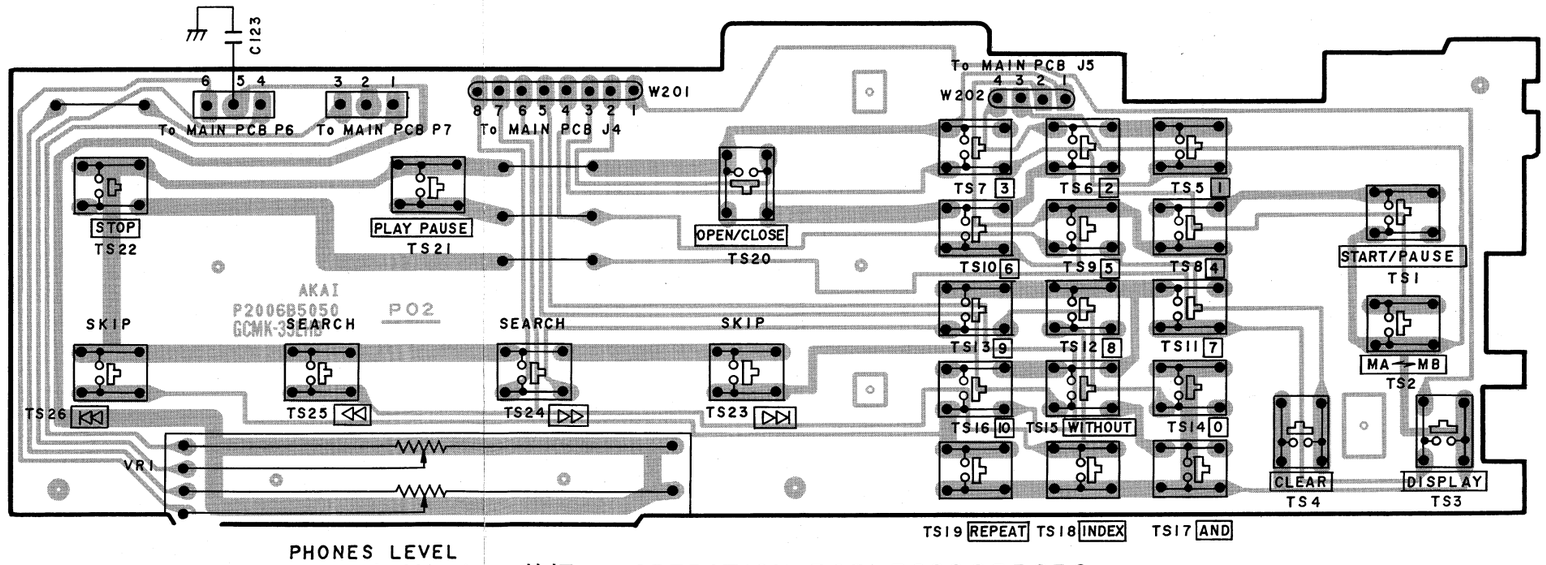
A0 ~ A10	Address input
I/O1 ~ I/O8	Data IN/OUT
$\overline{CE}$	Chip enable signal input
$\overline{WE}$	Write enable signal input
$\overline{OE}$	Output enable signal input
Vcc	+5V
GND	GND



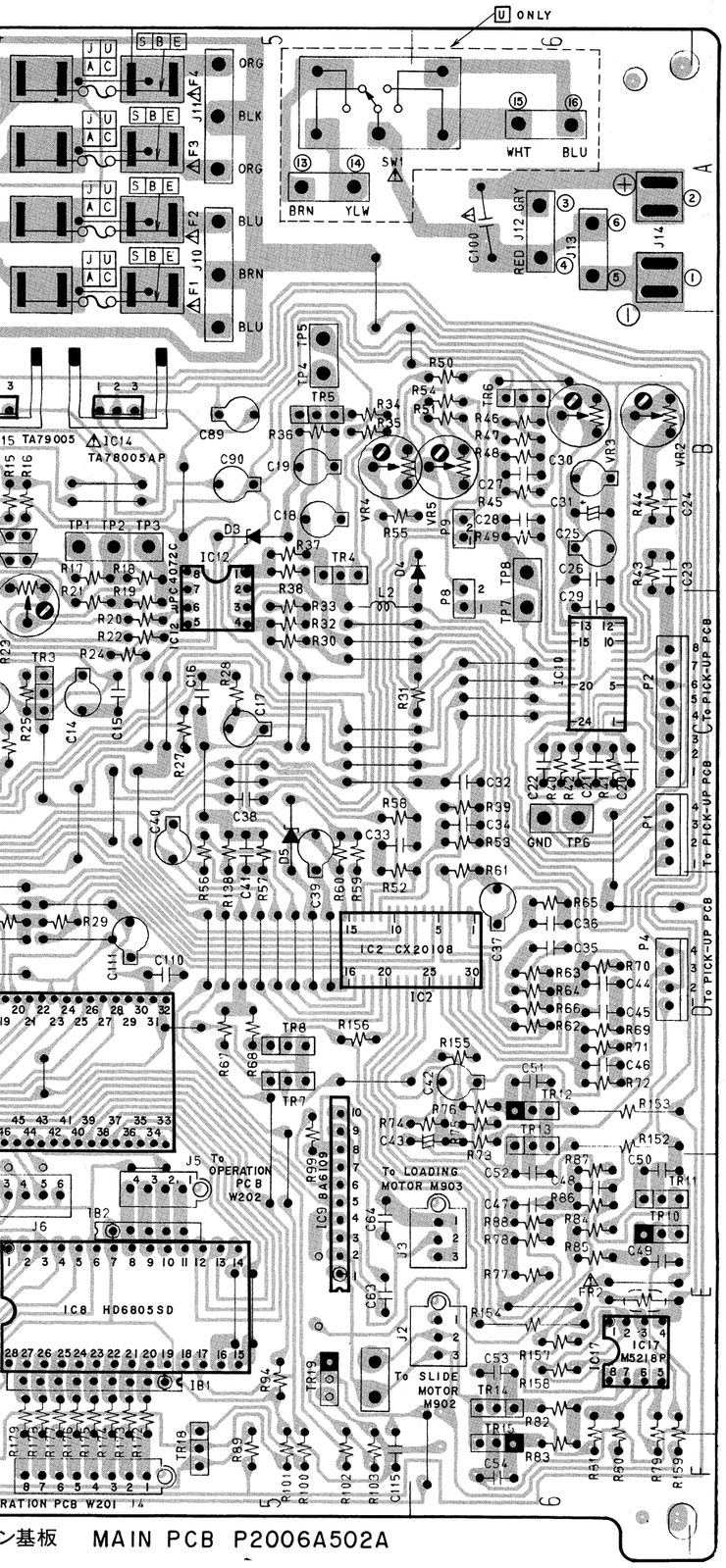
Pin No.	Symbol	Port Name	I/O	Active	Description
1	P42	MINCK	O		Main through check
2	P41	FOK OUT	O	H	FZC level set H: Normal L: Off-Set (+)
3	P40				Not used
4	P27	WFCK	I		Write Frame clock input
5	P26	SENS	I		Sens signal input
6	NC				Not used
7	NC				Not used
8	NC				Not used
9	P25	SCOR	I	H	Subcord detection signal input
10	P24	FOK	I	H	Focus servo "OK" signal input
11	P23	GFS	I	H	"H" Frame Sync. lock, "L" Frame Sync unlock
12	P22	GTOP	I	H	Frame Sync. detection signal input
13	P21	CRCF	I	H	CRC check signal input
14	P20	SUBQ	I		Subcode Q input
15	P37	MUTG	O		Mute control signal input
16	P36	CLK	O		Clock signal output
17	P35	DATA	O		Data signal output
18	P34	SIN	I		Not used
19	P33	XTL	O	L	Lutch signal output
20	P32	DIRC	O	L	Track jump control signal output "H" Normal "L" Track jump
21	P31	SCGT	O	H	Subcode gate signal output
22	P30	WFGT	O	H	Write frame Gate signal output
23	CNTR	CNTR	I		Track control signal input
24	INT1	INT1	I		Subcode Q read control
25	INT2	INT2	I		Focus control
26	CNVss	CNVss			GND
27	RESET	RESET			Reset signal input
28	XIN	XIN			Clock input
29	XOUT	XOUT			Clock output
30	0	0			Not used
31	RESET OUT	RESET OUT			Reset signal output
32	Vss	Vss			GND
33	P57	KEY7	I		Not used
34	P56	KEY6	I		Not used
35	P55	KEY5	I		Not used
36	P54	KEY4	I		Key input
37	P53	KEY3	I		Key input
38	P52	KEY2	I		Key input
39	P51	KEY1	I		Key input
40	P50	KEY0	I		Key input
41	P17	ST1	O	L	Not used
42	P16	ST2	O	L	Not used
43	P15	LBRK1	I		GND
44	P14	LBRK2	I		Not used
45	P13	PIN	I		Pick-up block in switch input
46	P12				Not used
47	P11	CLOSE	I		Disc tray close switch input
48	P10	OPEN	I		Disc tray open switch input
49	P07	LASER	O	L	Laser control signal input
50	P06	EMPH	O	L	Emphasis control signal input
51	P05	KICK			Not used
52	P04	INT1	O	L	Not used
53	P03	SYNC1	O	L	Not used
54	P02	SYNC0	O	L	Not used
55	P01	LD OUT	O	H	Loading motor out control signal
56	P00	LD IN	O	H	Loading motor in control signal
57	NC	NC			Not used
58	NC	NC			Not used
59	Vcc	Vcc			+5V
60	P47	INH	O	L	Display off signal output
61	P46	CE	O	H	Chip enable } Serial data output for display
62	P45	LCLK	O		Clock } Serial data output for display
63	P44	LCDATA	O		Data } Serial data output for display
64	P43				Not used



LCD基板　LCD PCB P2006B5040



オペレーション基板　OPERATION PCB P2006B5050



ン基板　MAIN PCB P2006A502A

LOCATION OF COMPONENTS

IC's

IC1---- C2,3, D2,3
IC2-----D5,6
IC3-----D2,3, E2,3
IC4-----D3,4,5
IC5-----E2, F2
IC6-----D1, E1
IC7-----C1, D1
IC8-----E4,5
IC9-----D5, E5
IC10---- C6
IC11---- B3,4
IC12---- B5, C5
IC13---- B3
IC14---- B4
IC15---- B4
IC16---- B3
IC17---- E6
IC18---- E3
IC19---- D1
IC20----D1,2
IC21----A1
IC22----B2
IC23----B3, C3
IC24----E2

TR's

TR1---- B3
TR2----A3,B3
TR3---- C4
TR4---- B5
TR5---- B5
TR6---- B6
TR7---- D5
TR8---- D5
TR10---E6
TR11--- E6
TR12---D6
TR13--- D6
TR14---E6
TR15---F6
TR16---B3
TR17---A2,3
TR18---F5
TR19---E5
TR21---D1
TR22---A2
TR24---A2
TR25---A2
TR26---B3, D3
TR27---A1,2
TR28---A2
TR29---B2
TR30---B2
TR31---C2
TR32---B2
TR33---F3
TR34---B1
TR35---B1
TR36---B1

CONNECTORS

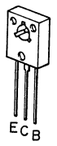
P1----C6
P2----C6
P3----D3
P4----D6
P5----A1
P6----A2
P7----A1
J1----B3
J2----E6
J3----E6
J4----F4
J5----E5
J6----E4
J7----E3
J8----E3,4
J9----B2,3

2SA1115
2SC2603
DTC144ES

2SK170

2SB764
2SD863

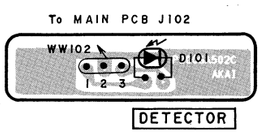
2SA1392
2SC3383
2SD1302



2SA1209
2SB632K
2SC2911
2SD612K

■ = PNP TRANSISTOR

□ = NPN TRANSISTOR



DETECTOR PCB
P2006A502C

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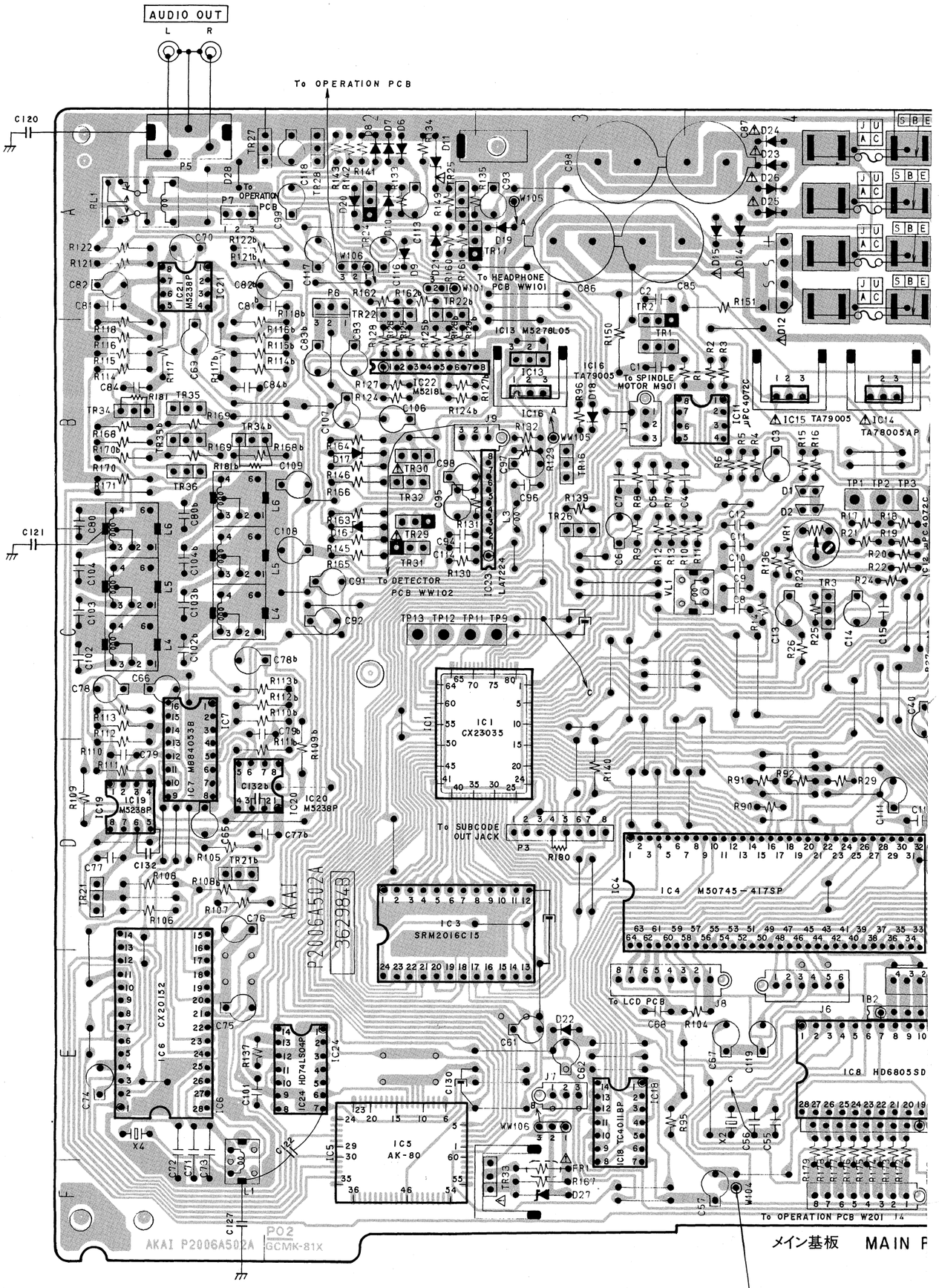
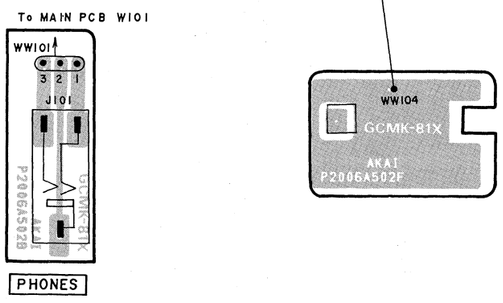


メイン基板　MAIN P

TR1,11,13,33 ------- 2SD612K
TR2,12 ------------ 2SB632K
TR3,5 to 8,16,18
25 to 28 --- 2SC2603
TR4,14 ------------ 2SD863-V8
TR10,15 ---------- 2SB764
TR17,19,24 --------- 2SA1115
TR21,34 ---------- 2SK170
TR22 ------------ 2SD1302
TR29 ------------ 2SA1209
TR30 ------------ 2SC2911
TR32,35 ---------- 2SC3383
TR36 ------------ DTC144ES



HEADPHONE PCB P2006A502B

CD-A70

C210 DENR DENL XT WFCK LATCH

MDP

X'TAL

VCO OUT

PIN (18) CH1 CS

PIN (21) CH2 WE

PIN (1) CH1

PIN (4) CH2

PIN (2) CH1

PIN (8) CH2

EYE PATTERN

EFM

MIRROR

FOCUS ERROR

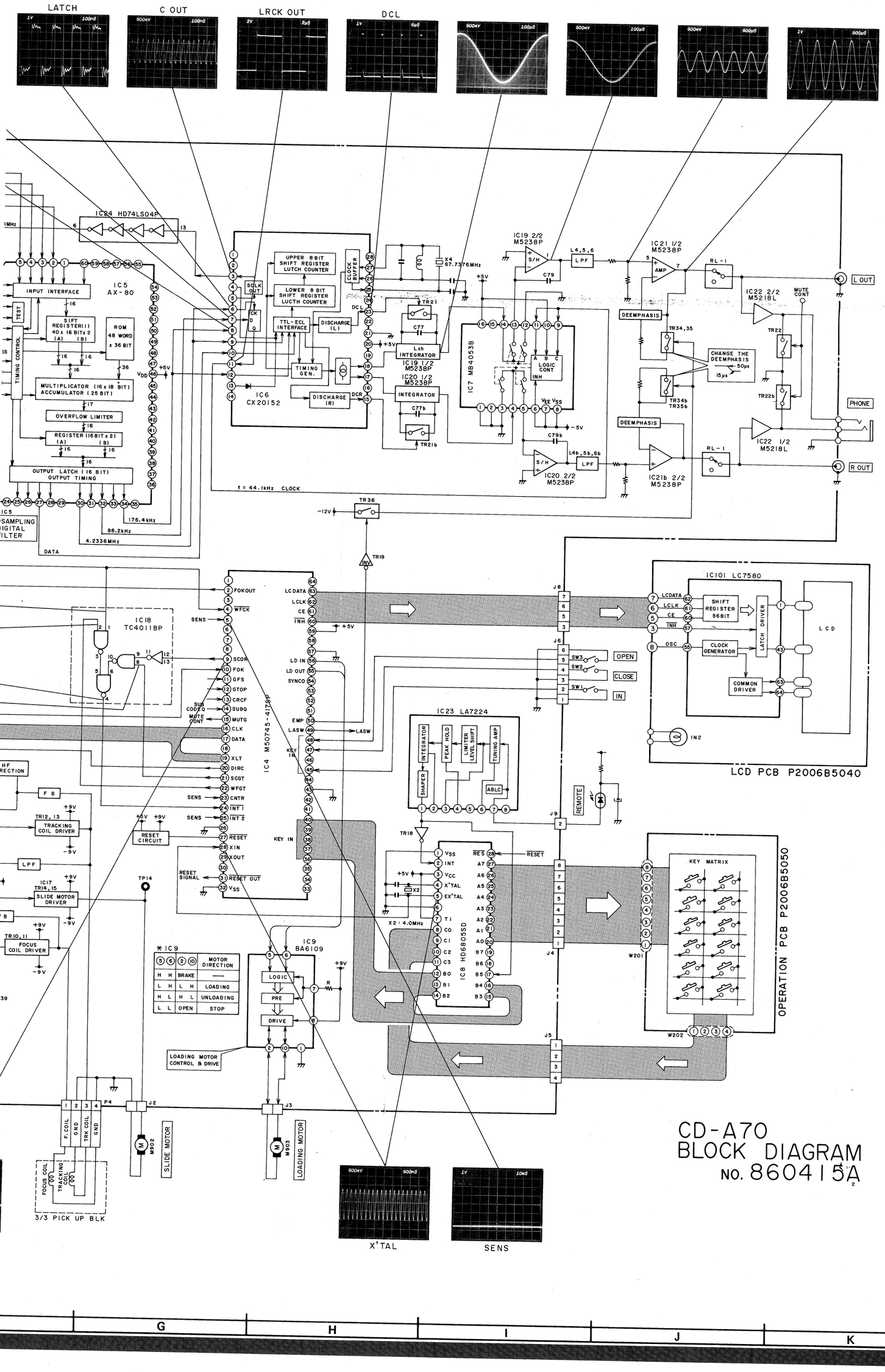
TRACKING ERROR

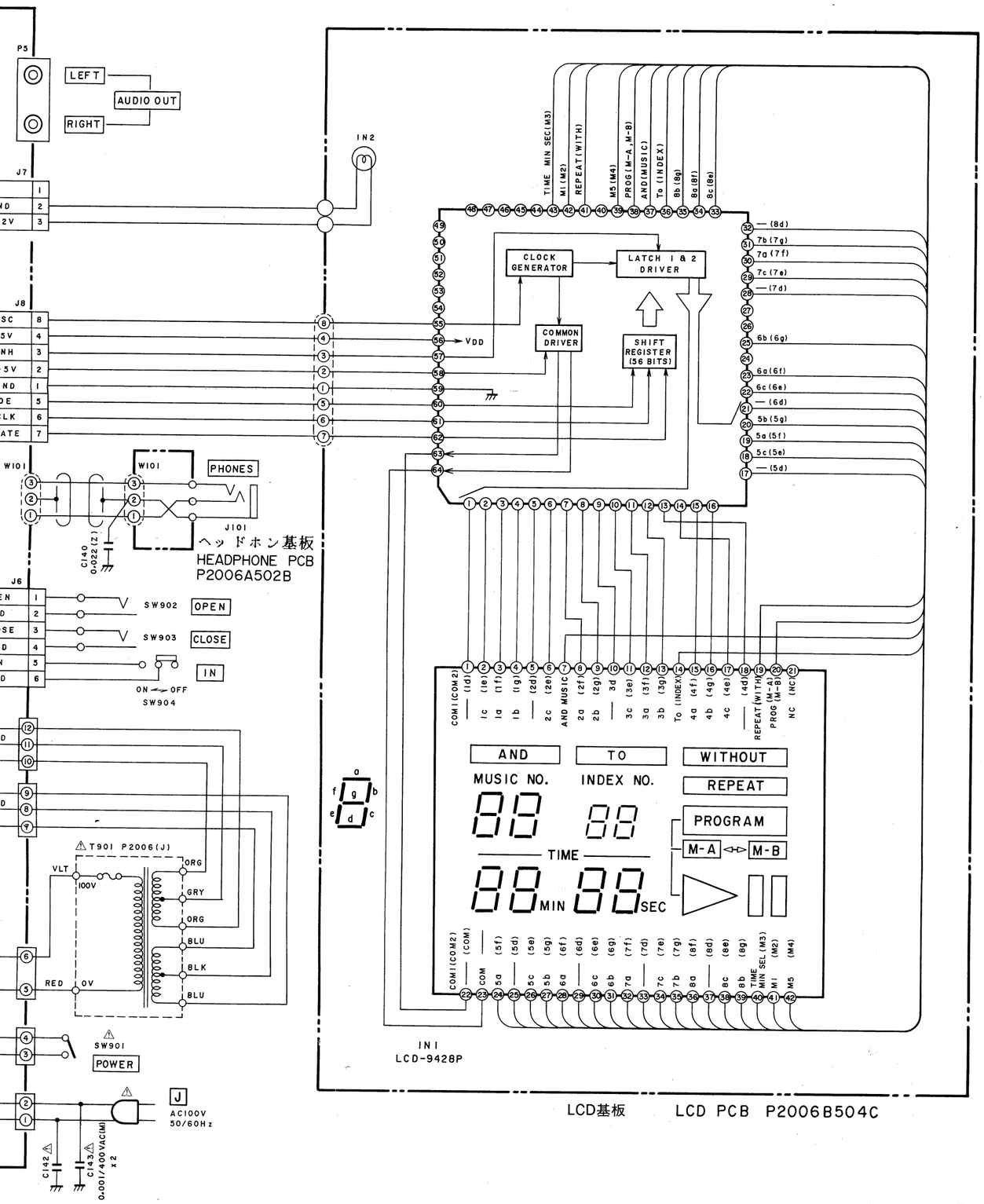
TRACKING AMP OUT

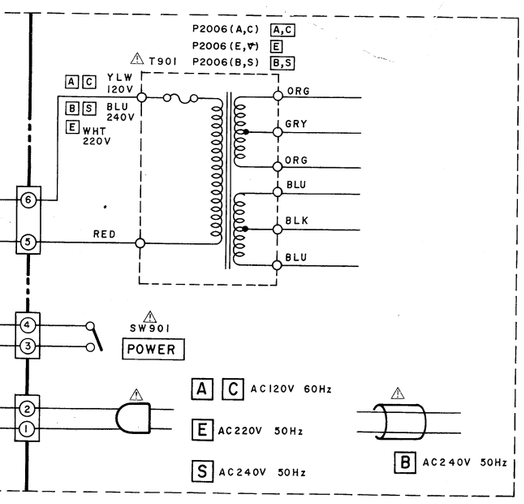
FOCUS ERROR OUT

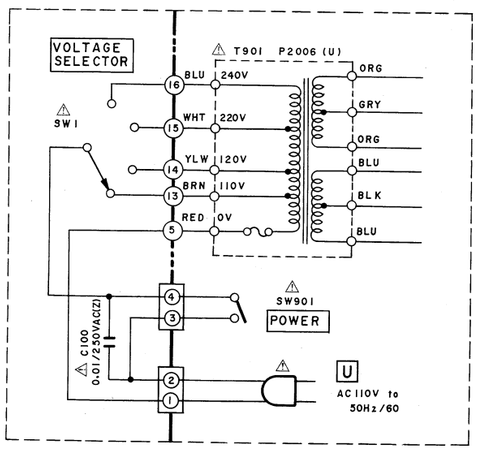
SCOR

MAIN PCB P2006A502A


LATCH
C OUT
LRCK OUT
DCL
IC24 HD74LS04P
IC5 AX-80
INPUT INTERFACE
SIFT REGISTER(I) 40 x 16 BITx 2 (A) (B)
ROM 48 WORD x 36 BIT
MULTIPLICATOR (16 x 18 BIT) ACCUMULATOR (25 BIT)
OVERFLOW LIMITER
REGISTER (16BIT x 2) (A) (B)
OUTPUT LATCH (16 BIT) OUTPUT TIMING
TIMING CONTROL
TEST
IC6 CX20152
UPPER 8 BIT SHIFT REGISTER LUTCH COUNTER
LOWER 8 BIT SHIFT REGISTER LUCTH COUNTER
CLOCK BUFFER
SCLK OUT
TTL-ECL INTERFACE
DISCHARGE (L)
DISCHARGE (R)
TIMING GEN.
X4 67.7376MHz
TR21
Lch INTEGRATOR
IC19 1/2 M5238P
IC20 1/2 M5238P
INTEGRATOR
C77
C77b
TR21b
IC7 MB40538
LOGIC CONT
INH
IC19 2/2 M5238P
S/H
L4,5,6
LPF
C79
IC20 2/2 M5238P
L4b,5b,6b
IC21 1/2 M5238P
AMP
RL-1
L OUT
R OUT
PHONE
MUTE CONT
IC22 2/2 M5218L
IC22 1/2 M5218L
DEEMPHASIS
TR34,35
TR34b TR35b
TR22
TR22b
CHANGE THE DEEMPHASIS
50μs
15μs
IC21b 2/2 M5238P
f = 44.1kHz CLOCK
DATA
176.4kHz
88.2kHz
4.2336MHz
TR36
TR19
IC18 TC4011BP
IC4 M50745-417SP
FOKOUT
WFCK
SENS
SCOR
FOK
GFS
GTOP
CRCF
SUB CODEQ
SUBQ
MUTG
CLK
DATA
XLT
DIRC
SCGT
WFGT
CNTR
INT 1
INT 2
RESET
XIN
XOUT
RESET OUT
VSS
LCDATA
LCLK
CE
INH
LD IN
LD OUT
SYNCO
EMP
LASW
KEY IN
IC101 LC7580
SHIFT REGISTER 56BIT
CLOCK GENERATOR
LATCH DRIVER
COMMON DRIVER
LCD
OSC
IN2
LCD PCB P2006B5040
IC23 LA7224
SHAPER
INTEGRATOR
PEAK HOLD
LIMITER LEVEL SHIFT
TUNING AMP
ABLC
REMOTE
SW3
SW2
SW1
OPEN
CLOSE
IN
IC8 HD6805SD
RESET
X2 : 4.0MHz
KEY MATRIX
W201
W202
OPERATION PCB P2006B5050
HF CORRECTION
F B
TRACKING COIL DRIVER
TR12, 13
RESET CIRCUIT
RESET SIGNAL
LPF
IC17
TR14, 15
SLIDE MOTOR DRIVER
TP14
FOCUS COIL DRIVER
TR10, 11
IC9 BA6109
LOGIC
PRE
DRIVE
R
LOADING MOTOR CONTROL & DRIVE
* IC9
MOTOR DIRECTION
H H BRAKE —
L H L H LOADING
H L H L UNLOADING
L L OPEN STOP
P4
J2
J3
F.COIL
GND
TRK COIL
GND
M902
SLIDE MOTOR
M903
LOADING MOTOR
FOCUS COIL
TRACKING COIL
3/3 PICK UP BLK
X'TAL
SENS
CD-A70
BLOCK DIAGRAM
No. 860415A2







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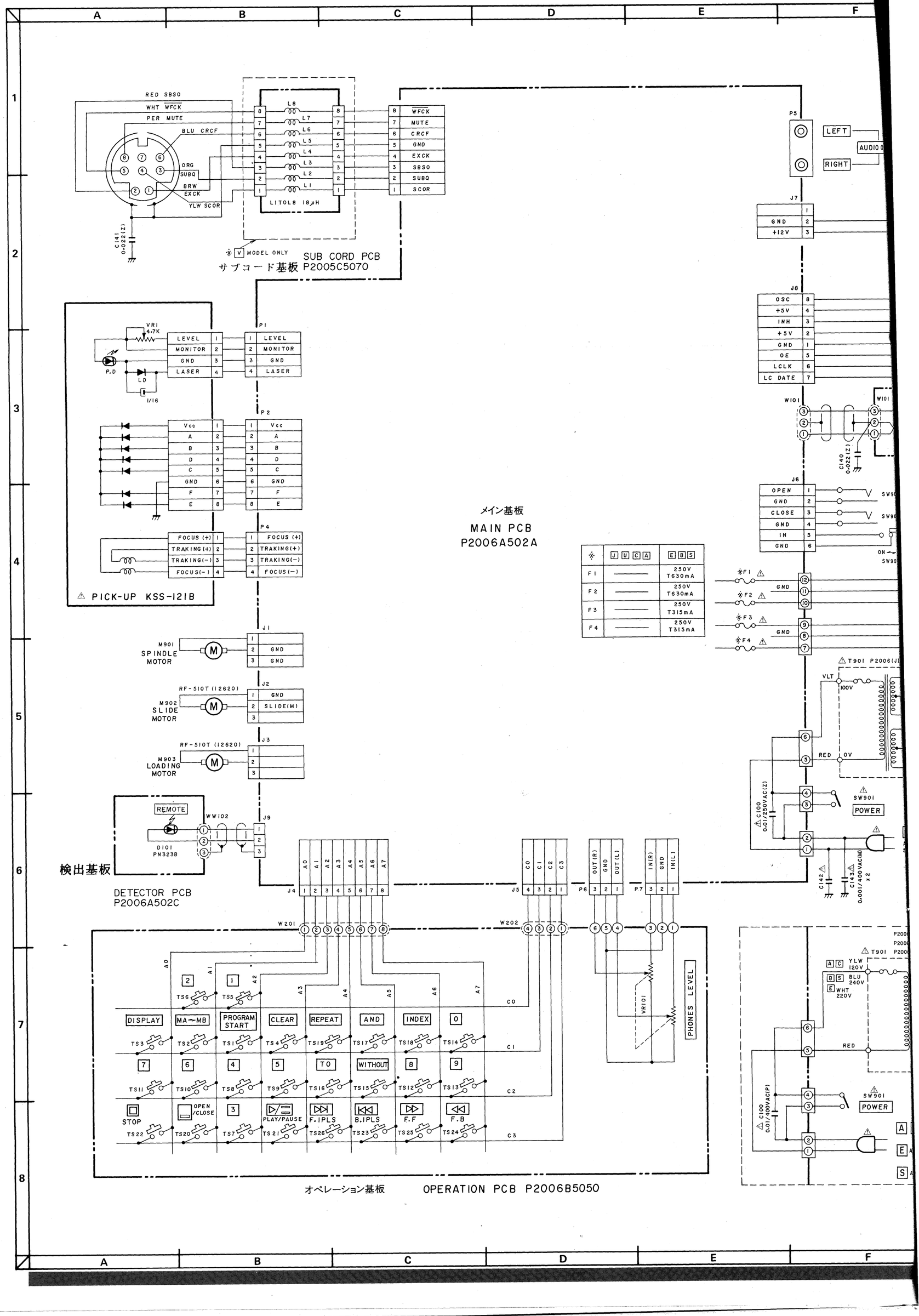
CD-A70
CONNECTION DIAGRAM
NO.3-1 860416A(A1)
2


SUB CORD PCB
サブコード基板 P2005C5070
MODEL ONLY
RED SBSO
WHT WFCK
PER MUTE
BLU CRCF
ORG SUBQ
BRW EXCK
YLW SCOR
L8 L7 L6 L5 L4 L3 L2 L1
LITOL8 18μH
C141 0.022(Z)
WFCK
MUTE
CRCF
GND
EXCK
SBSO
SUBQ
SCOR
P5
LEFT
RIGHT
AUDIO O
J7
GND
+12V
J8
OSC
+5V
INH
+5V
GND
OE
LCLK
LC DATE
W101
C140 0.022(Z)
J6
OPEN
GND
CLOSE
GND
IN
GND
SW90
ON
SW90
VRI 4.7K
P.D
LD
1/16
P1
LEVEL
MONITOR
GND
LASER
P2
Vcc
A
B
D
C
GND
F
E
P4
FOCUS (+)
TRAKING(+)
TRAKING(−)
FOCUS(−)
PICK-UP KSS-121B
メイン基板
MAIN PCB
P2006A502A
F1 250V T630mA
F2 250V T630mA
F3 250V T315mA
F4 250V T315mA
GND
GND
T901 P2006(J)
VLT
100V
RED
0V
C100 0.01/250VAC(Z)
SW901
POWER
C142
C143 0.001/400VAC(M) X2
M901 SPINDLE MOTOR
J1
GND
GND
RF-510T (12620)
M902 SLIDE MOTOR
J2
GND
SLIDE(M)
RF-510T (12620)
M903 LOADING MOTOR
J3
REMOTE
WW102
J9
D101 PN323B
検出基板
DETECTOR PCB
P2006A502C
J4
J5
P6
P7
A0 A1 A2 A3 A4 A5 A6 A7
C0 C1 C2 C3
OUT(R) GND OUT(L)
IN(R) GND IN(L)
W201
W202
TS6 TS5 TS3 TS2 TS1 TS4 TS19 TS17 TS18 TS14
TS11 TS10 TS8 TS9 TS16 TS15 TS12 TS13
TS22 TS20 TS7 TS21 TS26 TS23 TS25 TS24
DISPLAY
MA⇄MB
PROGRAM START
CLEAR
REPEAT
AND
INDEX
0
7
6
4
5
TO
WITHOUT
8
9
STOP
OPEN /CLOSE
3
PLAY/PAUSE
F.IPLS
B.IPLS
F.F
F.B
VR101
PHONES LEVEL
T901
YLW 120V
BLU 240V
WHT 220V
RED
C100 0.01/400VAC(P)
SW901
POWER
オペレーション基板
OPERATION PCB P2006B5050

注意：△の付きた部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。

WARNING: △INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: △ IL INDIQUE LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL, NE REMPLACER LES COMPOSANTS QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

各部の電圧は再生時の電圧値を示します
INDICATED VOLTAGES ARE MEASURED AT PLAY MODE

メイン基板 MAIN PCB P2006A5020

: 基準 B(POWER SUPPLY) LINE

001796

2SA1209
2SB632K
2SC2911
2SD612K

2SA1392
2SC3383
2SD1302

2SB764
2SD863

2SK170

2SA1115
2SC2603
DTC144ES

KSS-123B
PICK-UP

TO SUBCODE OUT JACK

SPINDLE MOTOR
M601

SLIDE MOTOR
M902

TO PICK-UP PCB

IC1 CX23035

IC2 CX20108

IC10 CX20109

IC11 μPC4072C

IC12 μPC4072C

IC13 SRM2016C15

IC14 M5074S-41

IC15 TC4011BP

IC16 TC4011BP

IC17 M5218P

IC24 HD74LS04

IC3 AK-80

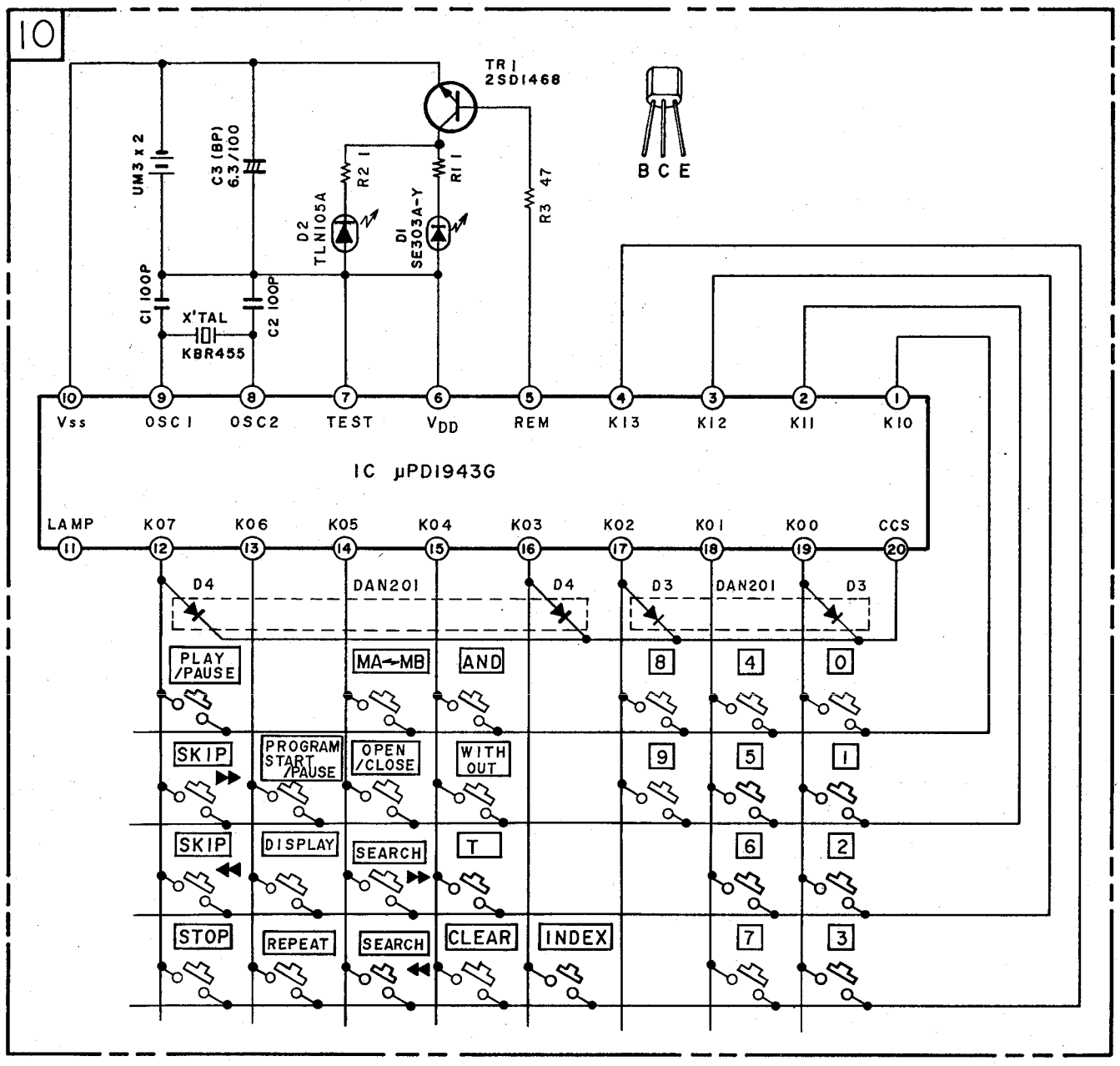
CD - A70

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)

備考
C,Rの単位(特に指定された部品以外)
抵抗……Ω1/6W (J), (FS)記号は不燃性部品
コンデンサ……μF 50WV(J)

CD-A70 MAIN SCHEMATIC DIAGRAM

NO.3-2 860417A



備考
C, Rの単位(特に指定された部品以外)
抵抗……Ω 1/4W(J), (FS)記号は不燃性部品
コンデンサ……μF 50WV(J)
各電圧は、GND間のDC電圧をデジタルボルトメーターにて測定した値です。

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)

RC-700 WIRELESS REMOTE CONTROL UNIT SCHEMATIC DIAGRAM NO.3-3 860418A